EFFECTS OF WETLANDS PROTECTION REGULATIONS ON SMALL BUSINESS

HEARINGS

BEFORE THE

COMMITTEE ON SMALL BUSINESS
HOUSE OF REPRESENTATIVES

ONE HUNDRED SECOND CONGRESS

FIRST SESSION

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EFFECTS OF WETLANDS PROTECTION REGULATIONS ON SMALL BUSINESS

TUESDAY, JANUARY 22, 1991

House of Representatives,
Committee on Small Business,
Lockport, NY.

The committee met, pursuant to notice, at 10:00 a.m., in the Lockport Municipal Building, 1 Locks Plaza, Lockport, NY, Hon. John J. LaFalce (chairman of the committee) presiding.

Chairman LaFalce. This hearing of the Small Business Committee of the U.S. House of Representatives will come to order. Today, the committee which I have the pleasure of chairing, the Committee on Small Business, will begin a series of hearings on the effects of wetlands protection regulations and especially their effect on the small business community.

In recent years, there has been increasing governmental attention to natural resource issues. In particular, a variety of Federal laws have been enacted to protect wetlands. Many States, including New York, have their own legislation intended to accomplish the same purpose. In fact, a plethora of wetlands laws, regulations and proposed regulations, court decisions, policy directives, guidance manuals, interagency agreements, and sundry revisions to the foregoing have made it extremely difficult, if not impossible, for small businesses to effect good faith compliance efforts or to plan for the future. Similarly, many communities have found it difficult to plan for future economic development.

As a strong environmentalist, I am wholeheartedly dedicated to the preservation of our Nation's true wetlands. Wetlands not only provide a habitat for fish and wildlife, they play a critical role in flood containment, water purification, and the maintenance of our planet's delicate ecological balance.

However, proposed and existing wetlands regulations must be both clear and rational so as not to cause undue hardship to those parties affected by them. Based on innumerable conversations I have had with, and correspondence received from, my constituents, I am extremely aware of how this community has been affected by both New York State and Federal wetland regulations. I am also very aware that this problem is not unique to this community or even to New York State. The emergence of the Federal Government's new definition and treatment of wetlands has had a significant impact on virtually every State in this Nation.

For this reason, I decided to hold hearings in Western New York in order to grasp even more fully the local perspective and then later in Washington, DC so as to capture the national picture. We will begin our hearings in Washington next week.

It is important at the outset to recognize the great complexity of this issue. At the present time, responsibility for Federal regulation of wetlands is spread over a number of agencies: The U.S. Corps of Engineers, the Environmental Protection Agency, the Fish and Wildlife Service, the Soil Conservation Service, et cetera. With regard to State regulation of wetlands, the New York State Department of Environmental Conservation has primary jurisdiction.

Over the years, there have been five major concerns with reference to wetlands regulation: First, the definition and delineation of wetlands; second, overlapping regulatory authority; third, regulatory delays in the issuing of permits; fourth, confusion over mitigation and enforcement procedures; and, fifth, possible conflicts between State and Federal regulation of wetlands.

With respect to all five issues, concern is intensifying as the Bush administration steps up wetlands enforcement in the implementation of its "no net loss" policy. All five issues, I believe, deserve closer scrutiny. It is my hope that the witnesses in attendance today will be able to provide insight into the depth of these problems.

This morning, we will hear from witnesses with first-hand knowledge of how the current wetlands regulation scheme has affected Western New York. These witnesses include Mr. David Brody, representing the Niagara Frontier Builders' Association; Mr. Daniel Symoniak, representing the Greater Buffalo Association of Realtors; Mr. Michael James, president of the Lockport Board of Realtors; Mr. Terry Kuehn, supervisor of the town of Wheatfield, representing public officials in Niagara County; Mr. Philip Weller, executive director of Great Lakes United; Mr. Rostylsaw Caryk, senior ecologist for an environmental consulting firm; Mr. Richard Tillman, district manager of the Niagara County Soil and Water Conservation District; Mr. Anthony McKenna, engineer for the town of Newfane and the village of Lewiston; and Mr. James McElheny, town engineer for Lockport. Both Mr. McElheny and Mr. McKenna also, in their corporate capacities, provide engineering services to the towns of Wheatfield, Somerset, and Cambria, and the villages of Youngstown and Middleport.

I am pleased that we will have such a wide array of interested parties testifying today. Through their testimony and testimony to be received later in Washington, it is my hope that we can perceive, and hopefully then achieve, a more balanced and rational solution to concerns expressed over State and Federal wetlands regulations. Although my committee does not have legislative jurisdiction over this issue, clearly, because this so much affects the small business community, it is of vital interest to our committee; and we do intend to work with the committees of jurisdiction quite closely as they formulate whatever necessary remedial legislation may be required.

Before I call the witnesses, I have a statement here from Mr. Joseph C. Weber III, president of Weber Realty. It is a letter addressed to Mr. Thomas Jorling, the Commissioner of the State Department of Environmental Conservation, and I wish to insert this in the record at this point.

[The letter may be found in the appendix.]

Chairman LaFalce. We are going to break this up into panels. In the first panel, I would like Mr. David Brody, Mr. Daniel Symoniak, Mr. Michael James, and Mr. Terry Kuehn.

I am going to ask all the witnesses to try to confine their remarks to approximately 10 minutes or so if they can, although we will put the entirety of their prepared text in the record. I will make an exception for Mr. Brody, however, because his prepared testimony is some 30 pages long; and it goes, because of his legal background, into an extensive legal presentation; and I think it would be helpful for us to hear that extensive legal presentation.

All right, are there any questions?

[No response.]

Chairman LaFalce. If not, let us proceed. Our first witness will be Mr. Brody, representing the Niagara Frontier Builders Association.

TESTIMONY OF DAVID A. BRODY, REPRESENTING THE NIAGARA FRONTIER BUILDERS ASSOCIATION

Mr. Brody. Thank you very much, Mr. Chairman. Before I begin my prepared notes, on behalf of Niagara Frontier Builders Association, I want to thank you for having me here. I would like to present you with a small token of our appreciation. This is a set of the newly required standard issue equipment for all Corps of Engineer personnel assigned to Niagara County since July.

Chairman LaFalce. It is a good visual. Thank you.

Mr. Brody. Mr. Chairman, thank you very much for having me here to speak today. This issue is of vital importance to small business here in the Niagara Frontier and across the Nation.

Chairman LaFalce. Before you go any further, we did want to have all of the witnesses give us copies of their testimony. I have yours. If the other witnesses have copies, you can give them to my assistant, Mr. Sobota.

Please proceed, Mr. Brody.

Mr. Brody. I applaud the committee and you, Mr. Chairman, for your insight and recognition that something which seems at first to be a simple matter of environmental concern does, in fact, have a serious and harmful impact on small business.

I am an attorney practicing law in Buffalo, New York. I am and have been a committed environmentalist since I was in high school in the late 1960's and early 1970's when I was involved in organizing activities for the first Earth Day. In law school, I was a Sea Grant fellow and in that capacity was involved in an analysis of the public participation program instituted as part of the adoption of the Coastal Zone Management Program for Western New York. Insights gained into the importance of public participation in the legislative and regulatory process during that time are very relevant to what I have to say to you today.

After law school, I worked for 2½ years as a legal analyst with a major national environmental consulting firm. I handled regulatory compliance and permitting issues for projects ranging from pipeline and major energy facility construction to hazardous waste cleanup and design of an environmental control agency for a new city in Saudi Arabia.

I advised clients and company staff regarding various Federal and State environmental requirements including specifically the permitting process under section 404 of the Clean Water Act and under the New York Freshwater Wetlands Law and State Environment Quality Review Act.

Since 1983 I have been a practicing attorney. The bulk of my work involves real estate financing, development, and project construction. My clients include many individual property owners, banks, builders, and developers. I am a former member of the Erie County Environmental Management Council, having been appointed to that position by both Republican and Democratic administrations. I am a member of the Erie County and New York State Bar Association sections on real estate law and environmental law, and I am a member of the Niagara Frontier Builders Association, the New York State Builders Association, and the National Association of Home Builders.

I am here to speak with you today because of my personal interest and concern about this problem and on behalf of the approximately 400 small business people who are members of the Niagara Frontier Builders Association.

The association is a not-for-profit trade group representing the interests of the building, development, and associated industries in Western New York. At the present time, we have 147 builder members, over 200 associate members, and 30 institutional members. The associate and institutional members are comprised of people in allied fields such as plumbers, electricians, carpenters, concrete contractors, masons, mortgage finance, building products and services, utility companies, planners, architects, appraisers, and attorneys. The association is committed to continued growth, prosperity, and quality of life within Western New York and is also the local voice for home ownership and private property rights. We want it to be very clear that the membership of our association is also strongly committed to the goal of environmental protection. Most of us have children, and we want our children to grow up in a better world.

Even our largest members, with the exception of a few of the banks in our organization, must be considered small businesses by national standards. The average number of homes built by our builder members in a normal year is about 15. Our largest member only builds about 200 homes in a good year. The vast majority of these home builders grew up in Western New York and have stayed here through some pretty rough times in the 1970's. They live in our community and have a vested interest in providing a continued quality of life and excellence in the product they deliver.

Gentlemen, our members are scared. Having survived the difficult times of the late 1970's and early 1980's, they have finally begun in the last few years to prosper. The promise offered to Western New York by the United States/Canada Free Trade Agreement made our futures look bright. Even after economic forecasts began to turn down on a nationwide basis, our projections remained encouraging. Western New York would finally enjoy its place in the sun.

However, since late July and early August, that optimism has been replaced by increasing pessimism and, for some, despair. The actions of the Army Corps of Engineers and the New York State Department of Environmental Conservation have created a climate of tremendous uncertainty and confusion. The stock of building lots that will be available for home construction in the spring of 1991, from our best estimates at this time, will be only ⅓ of what would have been available had it not been for the sudden and unexpected change in the Corps' enforcement policy which took place last summer.

For the first time in my career, I am getting calls on almost a daily basis—and my experience reflects the experience of other attorneys who handle similar work—from clients of mine who are builders or developers who have been threatened with lawsuits by their contractors, suppliers, and materialmen. I am receiving calls from clients of mine who are subcontractors and suppliers who are asking me how to go about placing liens against developers and builders. These are people who have worked together for periods of 10, 15, 20 years.

As an example, we have a client who puts in infrastructure—sewer pipe, roads, et cetera. This client did a job for a major developer in the area. Even though all of this developer's State and local approvals had been obtained, construction had commenced, and the infrastructure improvements had been put in, the developer's project was shut down by the Corps. As a result, my client has not been paid by the developer and, therefore, cannot pay her supplier. Her supplier will not supply pipe to her for her to do another job even though that job does not have a wetlands problem or require permits.

Many scores of small businesses in Western New York have been forced to lay off employees and some are on the brink of bankruptcy. If something is not done virtually immediately to resolve this issue, you can expect to see a significant increase in the number of bankruptcies filed in the building industry. I would remind you that the construction industry is the largest industry in the United States. While home building is only a part of that, all other aspects of the construction industry are equally affected.

Let me give you another example. Two concrete contractors that some of my clients do business with have advised me that they have virtually no jobs lined up for the spring. In a normal year, by this time, they would be booked through June or July. In reviewing the situation with their usual customers, they attribute the problem to wetlands.

Currently, two projects in the Audubon Industrial Park in Amherst have been put on hold due to Corps regulations. This is an industrial park which is 95 percent developed. This represents $8 million in total expenditures and a total of 345 jobs.

In another Amherst park, 14 potential projects with an estimated value in excess of $14 million are on hold.

Mr. Chairman, I have a few pieces here that we have been supplied by various builders and developers in the area. They are in the nature of case studies, and I am going to present them to you now, and we would ask that the record be held open so that if we get anymore in, we can provide them.

[The material may be found in the appendix.]

Chairman LaFalce. Fine.

Mr. Brody. These just give some details of some of the problems that some of our membership have been having.

The problem is that the rules have changed. For many years, we have been led to believe by government agencies at the State, Federal, and local levels that we were doing things the right way. All of the sudden, we have been told that the way in which we did things, the way in which we planned, the way in which we did our economic projections is simply wrong. Without warning, we have been forced to change horses in midstream.

Then, in the middle of the stream, they took away the horse.

In May 1990, the town of Lancaster, acting as designated lead agency under the coordinated review process pursuant to the State Environmental Quality Review Act, gave a negative declaration to one of my client's subdivisions. Coordinated review means that all State and local agencies that might have an interest in the project are supposed to be notified and within 30 days to respond with any comments they may have on the project. Both the State Department of Environmental Conservation and the County DEP were notified. By June, all permits and approvals were in place except the county sewer approval which was bogged down because of recent changes in the county's procedures and personnel. On August 1, having been told by officials of the sewer district that approval was forthcoming, my client closed on the property, fully expecting to be building shortly.

On September 5, the project engineers were informed that the County DEP would not process the sewer application without a separate delineation letter from the Corps. I should point out here that we were ready to go into the ground at that point and that those subdivision lots would be ready for closing now had all gone according to plan. I would add that most of those lots were presold and builders were depending on them.

Then to our surprise, on November 1, DEP approved the sewer district. During the interim, we had submitted nothing to the Corps of Engineers. So, the issuance of this permit really represented a change of policy. However, as we looked into the situation, we found out that the Corps had agreed that the DEP would no longer be required to hold up permits. They could issue the permits as long as they notified the Corps of Engineers that there might be a wetlands concern.

This seemed like a solution to the problem, but when we looked closer, we realized that for the developer this meant that the sewer approval was no longer the last step before construction. The developer would still have to go to the Corps and do a delineation. At the same time, we were told by the Corps that any delineation that was not done before November 15 could not be done until after March 15 because the onslaught of cold weather reduced the quantity of vegetation necessary to properly determine whether or not a wetland exists.

We scrambled around and got the consultants out onto the site before November 15th. The study has now been done and is about to be submitted to the Corps. These studies take about 45-60 days from field work through completion of the report. We are being told at this time, through our consultants, that the Corps will not even schedule a preapplication meeting. The report should be submitted in the next week, and we hope the report will be processed in 4 to 8 weeks. The report shows that there is approximately 1.5 acres of wetlands on the entire 12.3 acre parcel and that the subdivision will only impact about ½ acre of that wetland area.

This clearly falls within the structure of the nationwide permit system, and I expect that we will ultimately obtain a nationwide permit and be able to proceed. However, as you can see, we have lost a significant amount of time. My client expected to be in the ground by September 1 and to be closing lots by December or January. As it is, it looks like they will not actually start closing lots for another few months. That loss is costing the investors several-thousand dollars per month. That money is not going anywhere. It is the carrying cost of the money to the investors. The interest being earned, for the most part, only reimburses the bank for its cost of borrowing. It is totally nonproductive to the local or national economy. This is no way to run a business, but the Government's actions are compelling this result.

While all of this was going on, the same thing was happening to many other builders and developers in the area as those papers that I just gave you illustrate.

We formed a Wetlands Task Force at the Builders Association in August of last year to discuss and deal with this problem. It soon became clear that a complex new regulatory program had been dropped on us without any reasonable notice.

Development decisions were straightforward before last July.

I am going to tell you a little bit about how developers were making their decisions prior to July 1, 1990. At that time, the subdivision approval process was fairly straightforward. There were differences among individual jurisdictions, but, basically, the process involves preparation of a preliminary design concept which is submitted to the municipality. The municipality gives you some initial advice on design changes. Then you make your formal application.

The municipality normally would request lead agency status under the requirements of the State Environmental Quality Review Act. Most of the time, the State agencies acquiesce in that decision. The municipality then becomes lead agency, and its decision on the approval is final with the exception of final engineering detail and construction approvals. This process generally took about 6 months. Prior to entering into this process, the builder or developer had contracted for the land, had done its hazardous waste due diligence, and had checked the archaeology, the DEC wetlands maps, the National Wetland Inventory maps, and the flood plain maps.

If, during the coordinated review process—again, this is prior to July of last year—the DEC looked at their maps and said, "Gee, there might be some Federal wetlands here," they would notify the Corps of Engineers. Most of the time, the Corps would decline to get involved. Occasionally, they would send out a letter that said "There were some wetlands problems," and "Please get in touch with us."

For the most part, DEC did not even contact the Corps, and when the Corps chose to get involved, the developer was wading in a genuine swamp. Nonetheless, the Corps almost never took an interest. One of my colleagues, who has done hundreds of subdivision and site plan approvals in the last 10 years, had never once seen the Corps express an interest. In talking with various engineers around the area, I have had trouble finding any who had seen more than one or two cases of Corps involvement in their entire careers related to this kind of subdivision development. A major commercial or industrial development such as Galleria Mall is another story, but those are situations in which people expect to get into these issues. After July 1, 1990, we were thrust into a situation in which virtually every project of any size in Western New York had to go through a wetlands delineation and review by the Corps.

I am going to be very perfunctory about how the delineation process works because you have experts on the panel who are much more knowledgeable about this process than I am. What I will try to give you is a developer's view that I think is necessary to understand the rest of my presentation.

The delineation manual provides for what we call a "three-parameter test" to determine whether or not you have a wetland. It has to do with the types of soil, the hydrology of the area, and the vegetation.

The soils test is fairly involved, but the issue with soils is whether or not you have hydric soil. There are three classes of soils relevant to the delineation process. These are hydric soils, soils with potential hydric inclusions, and nonhydric soils. The difference has to do with water absorption, and holding capacities, and so forth. But for my purposes, it is sufficient to state that the Corps of Engineers is concerned about hydric soils and soils with potential hydric inclusions because these are the soils in which you may have wetlands. It is my understanding that in 95 percent of the cases where you have hydric soils, you will find wetlands under the Corps definition.

The designation of soils with potential hydric inclusions means that there are mixed soils, hydric and nonhydric, and that there are little segments of hydric soils within those areas which, due to the scale of the soil survey maps, cannot be individually mapped.

Under the delineation manual, the Corps of Engineers has potential jurisdiction any time that you have either hydric soils or soils with potential hydric inclusions. Thus, the distribution of these soils in a particular area becomes very important. Based upon the advice of some of our local experts, including one of the authors of the Erie County Soils Manual, and working from information provided in the Erie and Niagara County Soils Manuals as prepared by the Soil Conservation Service, we have determined that Erie County is 13 percent hydric and Niagara County 21 percent. There are potential hydric inclusions over 40 percent of Erie County and 43 percent of Niagara County. This means you are going to have to do a delineation under the Corps program on over 53 percent of Erie County and 64 percent of Niagara.

These numbers are a little bit misleading for two reasons. One is that the bulk of those areas that just have potential hydric inclusions will not prove to have hydric soils and, therefore, will not be jurisdictional wetlands.

However, even though the bulk of these lands will not be wetlands, anyone owning these lands still has to go through the Corps process and spend the time and money to do it before they can develop the property.

The other misleading factor is that these soils do not occur in nice little rectangular parcels. Again, our experts estimate that if you were to divide Erie and Niagara county into parcels of 10 acres or more, 75 to 80 percent of those parcels would include hydric soils and soils with potential hydric inclusions. If you were to divide the two counties into 100-acre parcels, 95 percent of them would have hydric soils or soils with potential hydric inclusions. I would add that many of our experts say that figure is low.

That means that for 95 percent of the 100-acre parcels in Western New York, you are going to have to go through the Corps delineation procedures. Whether or not they turn out to be wetlands, you are still faced with the bureaucracy and, most importantly, with the time element. These statistics do not apply to the cities of Buffalo, or Niagara Falls, or to Lackawanna, or to parts of Tonawanda which are not yet mapped, as I understand it.

If you are going to go out and buy a parcel, the first thing you want to do is what we refer to as "desktop delineation." You examine the soils books—these are the Soil Conservation Service books that I mentioned before—to see if there are any hydric soils or soils of potential hydric inclusions; check to see if the area is contiguous to or within a wetlands under the National Wetlands Inventory or DEC State Wetlands map or is within the 100-year flood plain. Using these additional criteria, we find that the percentages I just gave you do not change too much. Furthermore, we find that major areas of nonhydric soils are largely isolated in areas of the counties that are fairly far from development and not economically feasible to develop at this time.

I would like to just take a moment and depart from my prepared text to show you some maps that were prepared by some of our soils people who are associated with the Builders Association.

They took a map of Niagara County and colored in green those areas of nonhydric soils. So, everything else is subject to Corps jurisdiction. All the white stuff. The gray is in the towns of Wheatfield, Lockport, and Somerset, and the gray shows the areas in those towns that are serviced or have the ability to be serviced by sewers. So, as you can see, where the gray overlaps the white, these are all areas where the infrastructure is there and ready for development, and those towns have spent tremendous amounts of money putting that infrastructure into place, and they are going to have to do these delineations and probably, in many significant areas, not be able to build under these procedures. You can have that map.

Chairman LaFalce. Thank you.

Mr. Brody. The present section 404 regulations are not the result of clear legislative intent. All of this comes from a small section of the Clean Water Act, section 404(a), enacted in 1972 which states, quote: "The Secretary," that being the Secretary of the Army, "may issue permits, . . . for the discharge of dredged or fill material into the navigable waters at specified disposal sites."

After enactment of the statute——

Chairman LaFalce. I think this is important to underscore. A lot of people think that there is this great big body of Federal legislation called Wetlands Law. It is all that one sentence. It is just section 404.

Mr. Brody. That is absolutely correct.

Chairman LaFalce. Just that one little sentence that has been causing all the regulations, interpretations, decisions, and manuals, et cetera, and all these problems.

Mr. Brody. Yes; that is absolutely correct. I think as you can see, by its very wording, the notion of wetlands does not appear to be there.

Chairman LaFalce. It is not in the law. The word "wetlands" is not in the law.

Mr. Brody. It is not in the law. That is correct, and what has happened, and I will go through, is that we have expanded that notion of what a navigable water is to almost the point of ridiculousness.

After enactment of the statute, the Corps of Engineers, having had all of its experience with traditionally defined navigable waters, focused on that concept and drafted regulations that ruled out jurisdiction over the waters that were not normally considered navigable.

In a district court case in the District of Columbia—and I want to stress, a district court case—titled, "Natural Resources Defense Council," and I have a copy of it for you, versus Callaway, various conservation groups brought an action against the Secretary of the Army stating that he was interpreting 404 too narrowly. In a terse decision which occupies barely more than one column in the Federal Case Reporter, the Court stated: "Congress, by defining the term, navigable waters, in section 502, of the Federal Water Pollution Control Act Amendments in 1972, to mean the waters of the United States, including the territorial seas, asserted Federal jurisdiction over the Nation's waters to the maximum extent permissible under the commerce clause of the Constitution. Accordingly, as used in the Water Act, the term is not limited to the traditional tests of navigability."

This case gave the Corps and the EPA the inroad by which to expand jurisdiction under the Clean Water Act to cover wetlands.

The Court then ruled that by construing navigability too narrowly, the Corps of Engineers had effectively changed the statutory definition without authority, and by having done so, acted unlawfully. The court ordered the Corps to revoke its then current regulations which limited——

Chairman LaFalce. This is really a tortuous interpretation.

Mr. Brody. Terribly so. A lot of legislative reports were brought into the court and the court read through them. We have looked at those, and they are subject to great interpretation, but the court chose to decide, to take the position that the intent of Congress was that the term "navigable waters" or "waters of the United States" should essentially mean every drop of water that falls out of the sky or comes out of the ground.

Chairman **LaFalce**. I think it is an absurd interpretation, but so be it.

Mr. **Brody**. Thank you. I am glad you think that.

The court ordered the Corps to publish new regulations within 15 days which would expand the program to cover the waters of the United States. From 1975 through the mid-1980's, various cases were litigated which gradually expanded the definition, and we will be submitting to you some law review articles and briefs on that.

[The material may be found in the appendix.]

Mr. **Brody**. An example is *"United States* vs. *Fleming Plantations"* in 1978 in which the Court held that an area does not have to be inundated by surface water to have adequate wetlands hydrology. Ground water as well as rain water could create adequate hydrology for wetlands. In addition, there are cases that have held that wetlands that are separated from navigable waters by roads, by land, and by great distances can still be considered waters of the United States. The question arises—and I think this is what you were alluding to before—whether there are any waters in the United States that are not waters of the United States.

Over the last several years, up until late 1988, there was disagreement between the Corps of Engineers and the EPA as to the proper extent of jurisdiction and the proper means for determining where wetlands were located.

In 1980, the EPA issued guidelines for permit applications which had a strong presumption against allowing alteration of wetlands. In 1982, the National Wildlife Federation and other groups sued to invalidate the Corps regulations granting a nationwide permit to activities occurring in isolated wetlands.

An isolated wetland is a wetland above headwaters of a navigable stream or river which does not have any impact upon the navigability of that water. Something out in the field——

Chairman **LaFalce**. National Wildlife Federation—is that the organization that was headed by Mr. William Riley, presently head of the EPA?

Mr. **Brody**. I believe that was, but I would not swear to it.

Under the 1982 nationwide permit, the Corps had exempted from the program all above headwater and isolated wetlands regardless of their size, which means that the landowner could fill any number of wetlands that were not adjacent to or were above the headwaters of navigable rivers without Corps approval.

The Corps's position was that because these waters had no connection with navigable waters, the plain language of 404 excluded them. In February of 1984, the court approved a settlement of that case which required the Corps to create new regulations. These regulations provided that individual permits would be required for areas 10 acres or larger and provided for less onerous procedures on parcels of 1 acre or 1 to 10 acres. The 1- to 10-acre process is discretionary, but the Corps can require an individual permit. It is my understanding that they are doing that virtually all the time here in Western New York. It is significant that the parties settled because neither was really certain about what the law meant. This is a blatant example of court-made law, and only Congress really has the perspective to sort these problems out.

At about the same time, the Fifth Circuit was deciding the *"Avoyelles Sportsmen's League, Inc.* vs. *Marsh"* case. In the Avoyelles case, the courts upheld the broad construction of the term "waters of the United States" to include "adjacent wetlands" which were to be defined by looking at the three parameters: soils, hydrology, and vegetation.

In 1985, the Supreme Court of the United States upheld key elements of the section 404—I should make a point about the Avoyelles case. It is very unpopular down in Louisiana because it had the effect of declaring virtually the entire southern half of the State to be wetlands.

Chairman LAFALCE. I have talked with a good many of my colleagues, and I think it is safe to say that no group of Congressmen is more concerned than the Louisiana delegation.

Mr. BRODY. Yes.

The next case is the *"United States* vs. *Riverside Bayview Homes."* The court determined that the expansive view of the concept of "waters of the United States" was proper and within congressional intent. So, here you have Supreme Court sanction of these earlier cases.

The court found the Corps conclusion, that wetlands adjacent to lakes, rivers, streams, and other bodies of water may function as integral parts of the aquatic environment even when the moisture creating the wetlands does not find its source in the adjacent bodies of water, to be reasonable. We do not agree with the court's positions on these matters. We do not believe that Congress ever realized the impact that this construction of the statute creates, and we urge you to undo the damage that was done by the courts.

Having addressed some important issues of judicial and bureaucratic overreaching, I would like to spend just a moment on some other problems that are raised by the Corps definition of wetlands, also by the exemptions provided for in the program regulations and the analysis required in the permit process to obtain a permit to fill wetlands.

Chairman LAFALCE. Of course, all of these cases that you have cited were prior to July 1990, when you say the problem arose.

Mr. BRODY. That is correct.

Chairman LAFALCE. So, at some point in time in your testimony, you are going to get into the changes that have taken place since July 1990, are you not?

Mr. BRODY. Yes; that will be coming up right after I am done with the legal analysis.

Chairman LAFALCE. Please continue.

Mr. BRODY. The regulations of the Corps defined wetlands as: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

While this last sentence concerns what we would all consider to be wetlands, that is the swamps, marshes, bogs, and similar areas, in practical application under the Federal Wetlands Delineation Manual, lands on which water pools for less than 2 weeks out of the year are considered to be wetlands. During most of the year, these lands do not have any water on them at all. If we were to take a walk through the woods and fields where these supposed wetlands are located through most of the year, we would have no idea that we had been in a wetland.

The definition has caused many problems of interpretation which have been handled through Regulatory Guidance Letters, Memoranda of Agreement between the EPA and the Corps, and through the Federal Delineation Manual. The differing interpretations of these issues by different Corps district offices can lead to widely varying results in different parts of the country. Even within the Buffalo region, we get widely varying interpretations from different members of the staff.

Other important issues that you should pay close attention to, as you review the materials that we and others will be submitting, are the "isolated headwaters" issue, the "adjacent wetlands" issue and the "normal farming" exemption.

The many Regulatory Guidance Letters and Memoranda of Agreement which have been issued should receive congressional scrutiny. The policies represented by these documents have significant impacts on small business. They are enacted by the agencies with little, if any, opportunity for public comment and without formal rulemaking procedures. For the most part, they are created by the courts and by tunneled-vision bureaucrats carrying out personal agenda or driven by environmental interest groups whose motives may be sincere, but whose failure to understand the day-to-day problems of operating a small business leads to expensive, incentive-stifling overregulation. It is time for Congress to give adequate guidance to the Corps and the EPA, and to force these agencies to comply with the Administrative Procedure Act, and to seriously consider regulatory impacts of their actions with as much care as they now consider environmental impacts on development projects.

Finally, the Corps' procedure creates some serious problems. In the Attleboro Mall case, which is titled *"Bersani* vs. *EPA"*, an appeals court case, the Pyramid Companies had applied for a wetlands permit. They had entered the market several years before looking for land on which to build a mall. They finally bought sufficient lands to continue with their project. However, when they did, it was found that there was a wetlands area within the site. The EPA vetoed the Corps permit. In other words, the Corps had already gone through the process. They had spent all the money, and the Corps issued the permit. The EPA vetoed the permit stating that when Pyramid entered the market, there was another site nearby that the company could have attempted to purchase. That site did not have wetlands and would have been adequate for the mall. It did not matter to the Court that those lands were not for sale at the time. The court upheld the EPA's veto stating that the failure on the part of the company to examine alternative sites before it purchased the property was a fatal flaw. The company was not allowed to attempt to mitigate or to create new wetlands.

When a developer purchases lands that are truly swamplands, and that have extensive wetlands values, this analysis may be appropriate. However, under the new delineation manual, many lands that do not have the appearance of wetlands turn out to be wetlands.

This fact, combined with the holding in the Attleboro case, creates an untenable situation for the developer in Western New York. The developer who has wetlands on his property must be able to show that he has examined all practicable alternative sites before he acquired the property. This means that he will to go to the expense of doing a wetlands delineation on the property that he wants to develop and on several other properties so that he can determine which property has the least wetlands acreage. He is going to have to get all of these properties under some kind of contract or option. Small businessmen just do not have the money or time to enter into this kind of review. Something has to be done about the impact of the Attleboro case on the process. The court's theories about practicable alternatives are simply untenable.

Chairman LaFalce. This concept of exhausting all alternatives is interesting, but that might mean that rather than take 6 months to a year, it will take you 6 decades to 10 decades.

Mr. Brody. I hate to say it, but I do not think that is unrealistic with respect to large projects. It is an impossible situation, the notion that you could—what it really requires, and I shudder to think about it, is central planning. We have all seen how well that works in other countries, and we obviously do not want that here.

Let me get now into your question about what brought us to where we are.

The Federal manual is vague, overinclusive, and illegal.

Four Federal agencies have authority over wetlands, and you have mentioned them earlier. Only the Corps of Engineers issues permits, but the EPA does have veto power over those permits. The opinions of the Fish and Wildlife Service in particular, but also the Soil Conservation Service are sought in the permit issuance process.

Before March 1989, each of these agencies had a different delineation procedure. On January 10, 1989, after protracted discussions resulting in large part from disagreements as to the meaning and impact of court decisions, the four agencies adopted the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands." The manual became effective March 20, 1989. Much of the problem that our builders in Western New York are experiencing, results from the fact that this manual, which provides us with the method to be used for establishing whether or not a wetland exists, was not subjected to the notice and comment procedure required by the Administrative Procedure Act. The four agencies issued this as internal regulatory guidance to their staff.

If I may depart from my prepared comments for a moment in response to your earlier question, what seems to have happened is that you had all of these court cases constantly expanding and expanding and expanding the Corps' jurisdiction. Finally, the agencies got together and created a new delineation process. Prior to March 1989, they had their own, and the old delineation process, even though the changes had been made in the regulations, still reflected the prior Corps bias toward navigable waters. For that reason, the regulated public really did not have any kind of notice in reality that there were going to be changes in the procedure effected by these changes rendered by the court decisions.

This matter is now the subject of a lawsuit in Maryland called *"Mulberry Hills* vs. *United States"*, U.S. District Court, District of Maryland, Civil Action No. PN89-2639. There are other lawsuits getting underway, and I am meeting in Washington in about 2 weeks with 15 other lawyers from around the country to plot strategies with respect to this.

The developer in that case was forced to utilize the manual. The manual created a situation in which lands that under the old delineation method would not have been considered wetlands are now considered to be wetlands. The manual contains mandatory technical criteria, field indicators, and recommended methods to determine the existence of wetlands. It effectively changes the criteria and methods for determining jurisdictional wetlands. As a result, the plaintiff claims that the manual is a 'rule" within the meaning of the Administration Procedure Act. Because the Corps did not go through the rulemaking process, the lawsuit maintains, and I believe rightfully so, that the rule is illegal.

In addition to the fact that the rule is probably illegal——

Chairman **LaFalce**. Let me just say, I think you have a very persuasive argument of illegality.

Mr. **Brody**. Thank you.

Chairman **LaFalce**. I think that based upon the recent statements I have seen Mr. Riley make, he might be of that mind. I think he has made recent statements in interviews that they did not intend to do what they, in fact, have done.

Mr. **Brody**. What concerns me about that is that while he is making those statements, the Corps is still enforcing the manual, and there has been no guidance from either the EPA or the National Corps that these procedures should be dropped until this can be sorted out.

I do understand that there are some public meetings that have been taking place on the manual, but these have not to my knowledge been treated as a rulemaking under the Administrative Procedure Act, and so, I think any changes made because of that would still be illegal.

In addition to the fact that the rule is probably illegal, the rule was not enforced in Western New York between March 1989 and July 1990. I would just add here that we believe that there may be some connection between the fact that the local Corps received a new commander and the fact that these things were suddenly enforced. We do not know that for certain, but we would certainly like to find out.

There was no information given to the general public. Builders and developers were not advised of the changes. State and local agencies continued to issue approvals and authorizations in the same way that they had in years past. Then suddenly, in July 1990, everything changed. That brings us to where we are today.

Before I go on, I would like to say a word about the rule of law. While it is well established that ignorance of the law is no excuse, in a modern democracy, we expect our Government to be fair. One of the logical necessities for implementing new laws and regulations is that the regulated community be notified. Regardless of any other issue in this matter, regardless of the severe economic disruption that this situation is causing, regardless of whether or not ultimately the courts determine that the Manual was promulgated properly, or that notice and comment procedures should have been followed, regardless of all that, this is bad governmental practice. Agencies have to obtain the input of the regulated public to assure that new changes in policy and regulation will not have the kind of severe impact that this change has had on Western New York.

People sitting in offices in Washington, whether motivated by good intentions or personal agendas, must seek the input of the regulated public. The Small Business Committee should exercise its oversight function. You should slap the four agencies involved in the issuance of the Federal Delineation Manual very hard on both wrists. Your committee should admonish them that any time they are going to enact a change in a program which will have the de facto effect of increasing the jurisdiction of Federal agencies over the ownership, use and development of private lands, these agencies have to make those changes in accordance with the Administrative Procedure Act.

Let us talk a little bit about some of the economic and social impacts of these developments which are staggering. The Federal deficit, the New York State deficit, the banking crisis, over regulation such as what we have experienced with the Corps of Engineers' implementation of the Federal Wetland Delineation Manual, will result in a 35-percent reduction in new home starts in Niagara and Erie Counties in 1991.

That 35 percent is a very conservative view, and I think that it could be as high as two-thirds.

The results of this loss of home construction will reduce employment in our industry by at least 30 percent. This affects a multitude of trades and crafts, and I have listed those in the testimony, so I will not run through them all right now. Suppliers for all of these different trades, for furniture, appliance sales, and real estate sales are all likewise affected.

Single family building starts for the two-county area from 1987 have ranged in the vicinity of 2,000 to 2,500 for Erie County and between 400 and 600 for Niagara County. This year, we have already had 2,030 building starts in Erie County and 599 in Niagara County. This was as of a few weeks ago.

Chairman LaFalce. You mean in 1990?

Mr. Brody. I am sorry. In 1990 as of November, excuse me; yes.

The average sales price was $156,345; the average home was 2,234 square foot, two-story, four-bedroom house with a two-car garage. I have given you an itemized breakdown on the costs for that which I will not go through in detail now, but the total price again comes to $156,345.

If we were to take the two-county projected total home starts for 1990 of 2,861 and multiply by the average cost of $156,345, you can quickly see a multimillion dollar industry, $447,303,045, and that is just the price of the homes. That does not include furniture and all the multiplier impacts. The 35-percent projected downturn for 1991 will result in a loss of $156,556,066 to the local economy.

Chairman LaFalce. Now, Mr. Brody, you earlier said, though, that the Federal deficit, the New York State deficit, the banking crisis, the wetland problems, et cetera, will result in this 35-percent reduction.

Mr. Brody. Yes.

Chairman LaFalce. Any estimate as to what portion of that 35 percent reduction will be attributable to wetlands problems as opposed to other economic problems?

Mr. Brody. To hear our membership talking about it, none. Or I should say all of it will be attributable to wetlands. I think a substantial portion of it. One of the differences between Western New York and the rest of the country is that our economy has been growing at a time when the rest of the Nation's economy has been shrinking.

I have talked with several developers. We have met several times, and we have tried to come up with some figures. Right now, what we are seeing is virtually every subdivision that was on the books for 1991 was stopped in July 1990. Only about one-third of those have picked up again, and the third that have picked up at this point—and, of course, we can expect a few more to get approvals in the next few months—of that third that have picked up at this point, about half to three-quarters of them had to get some kind of permit and have had to reduce the total number of lots in the subdivision by about one-third. So, I think we may actually be looking right now at fewer than one-third of the lots that we thought would be available for construction being available. I think by the time spring rolls around, we will be up to about 50 percent, and I hope that gives you some idea of what we are talking about here. Obviously, it is very difficult to separate all these issues.

Chairman LaFalce. Please continue, and we do have a great many other witnesses, so I am going to ask you to try to summarize within the next 5 minutes.

Mr. Brody. OK, let me do that. I will not go through all the details of this except to state that our estimate of the increase in the price of the average house, and this increase comes about because of the cost of delineation studies, the cost of reengineering and the delays involved, the cost of the loss of lots and so forth, if there is no wetland, you are looking a minimum of $1,000 increase per house. If there is a wetland, you are looking at about a $19,300 increase in the price of the average house.

To take that one step further, market conditions will gradually work to spread the higher cost to subdivisions that do not have wetlands.

Chairman LaFalce. That is just the cost of the house. That does not talk about additional other costs, too. For example, if you have to pay an attorney, in the case you want to buy the house, what additional work must that attorney do?

Mr. Brody. We have factored in engineering and consultant fees that the developer pays and legal fees that the developer pays normally, but I must admit that we did not factor in those additional costs. You may have $5,000 or $10,000 in additional costs at that point. Of course, you also have the additional costs that arise when a project cannot get a permit, and then you have to go into a litigation mode, and you are looking at a possible taking suit, and then you have cost to Government as well as to industry.

Some additional economic concerns, if the project does not have sufficient cash-flow to ride out the delay, the project may go under, the banks may be left holding the bag. If profit margins cannot be maintained, developers' capital will find its way out of housing and into other businesses. Obviously, we have already seen the effect of the loss of funds from the banking industry. The question occurs what will happen if private money is not available.

Obviously, we have the multiplier effect and the additional costs that arise from the loss of additional purchases, the loss of withholding taxes, and so forth.

I would like to give you two quick examples on taxes. The town of Clarence and the town of Amherst have estimated their losses. The town of Clarence estimates that the assessed valuation of the lands in the town will be reduced by $300 million and that means a loss of $9 million tax revenues. The town of Amherst is talking about $175 million reduction and a $6 million loss of tax revenues, and, obviously, that has to be picked up by the other people who live in the towns.

The issues are complex. As you said before, small business needs to know the rules. Give us a good set of rules, give us time so that we can work with them and learn how they work. Don't change them constantly, and we will learn how to make it work for the whole system.

We need to be consulted when new rules are developed. We need to be given effective notice when changes in the rules are made as well as time to comply.

On that issue of time to comply, I would point out, for example, the Clean Air Act and the Clean Water Act in which major industries in this country are given 5 or 10 years to come into compliance with major new technology requirements. Nothing of that sort seems to happen here and, yet, we are dealing with the largest industry in the United States.

We have to recognize that the protection of the environment must proceed hand-in-hand with beneficial economic development. Environmental protection is both a necessity and a luxury. If we allow the wanton destruction of natural habitats without regard to their productive values, we destroy our most basic and essential resources.

On the other hand, it is possible to overprotect those resources in a manner which is detrimental to the well-being of our society. If the wetlands program impacts agriculture, we have increases in the price of food and some people will not be able to afford to eat. If the wetlands program prevents us from building affordable housing, people will not have shelter. Here, I am not just talking about developers and builders. We have to look at the repercussions throughout society. Decisions about priorities with respect to environmental issues have to be made. I know these are very difficult political decisions.

I will just add here that I think we need to start thinking about these decisions and these changes in the way we do business in a much longer time perspective. If we are going to make these changes, let us look at 20-year plan for environmental protection and industrial growth.

The next section that I was going to talk about has to do with the wetlands delineation process. Most of all, we have to get an intelligent process that takes account of the values that we are seeking to protect. I think right now the Corps does not do that. The values of the wetlands have very little to do with its decisions.

We need more coordinated action by Government. Federal, State, and local governments have to coordinate better. Had they done so in this process and informed the public of these changes, we would have had a lot less dislocation.

Chairman **LaFalce**. Mr. Brody, I am afraid that I am going to have to ask you to conclude now.

Mr. **Brody**. You have the rest of my comments and conclusions.

Chairman **LaFalce**. I have the entire remarks. I am afraid I am just going to have to move on. All right?

Mr. **Brody**. That is quite all right.

Chairman **LaFalce**. I want to thank you very much for excellent testimony, and if you will just remain there, we are going to hear from the other members of this panel now.

Mr. **Brody**. Thank you very much.

[Mr. Brody's statement may be found in the appendix.]

Chairman **LaFalce**. I would now like Mr. Daniel Symoniak, representing the Greater Buffalo Board of Realtors, to present his testimony.

TESTIMONY OF DANIEL SYMONIAK, REPRESENTING THE GREATER BUFFALO ASSOCIATION OF REALTORS

Mr. **Symoniak**. Thank you, Congressman LaFalce, and thank you very much for showing interest in a matter which is of vital importance to all of us. I apologize before I start for the quality of my voice. I spent a lot of time hollering Sunday at the football game, and I have not quite gotten it back yet.

Chairman **LaFalce**. It is a good thing that we did not plan this hearing for the 28th.

[Laughter.]

Mr. **Symoniak**. The purpose of my testimony today is to convince the members of this hearing panel that the current Federal Wetlands Program, and its implementation through the new field manual, is creating an undue hardship upon small businesses in Western New York.

Let me begin by supplying some background information on current conditions in Western New York. Because of the shortness of preparation time, I was only able to gather data from one community in Western New York and that is the town of Amherst. The information that I will be giving you was prepared by the Amherst Industrial Development Agency.

In an attempt to determine how much land in the town of Amherst would need to go through Army Corps of Engineer application and approval process, I took the total acreage of the town of Amherst, which is 34,100 acres and subtracted the developed acreage, which was 20,541, leaving approximately 13,559 vacant or agricultural acres. In other words about 40 percent of Amherst's land is still undeveloped.

I further attempted to determine what portion of this remaining land would require Army Corps of Engineers approval before development could begin. What I found out was that all of it would. Today, neither the town planning board in Amherst nor the Amherst Industrial Development Agency will even place a proposed project on their respective agendas for review without prior clearance from the Army Corps of Engineers. So, effectively, everything in Amherst now needs to go through the Army Corps process.

I will not go into all the requirements of the application and approval process except to note that Upstate New York is at a particular disadvantage because the required field vegetation studies cannot be done between November 15th and March 15th because of winter dormancy. This factor alone can create a 4-month delay in the process and a large backlog on March 15th or later when the vegetation begins to refoliate.

According to a recent study by the Amherst Industrial Development Agency, there are 66 small businesses currently located in the town of Amherst that anticipate expansion within the next 2 years. I am deeply concerned that the expansion plans of some of these 66 companies will be delayed, made more expensive, or be completely eliminated by the requirements of the wetlands program. The worst case scenario in some of these situations is that companies that cannot expand will move to other parts of the State and/or county where they can.

Last Tuesday, the Buffalo News carried the results of a recent statewide survey of 3,379 companies in New York State which revealed the following frightening results: 70 pereent of the business leaders said that any further expansion plans for their firms would not include New York if they had a choice; 57 percent said they would like to move their companies out of the State. If you add to this already negative perception of New York as a place to do business, a new lengthy and costly process for the companies that would like to stay and expand, I am certain that the negative attitudes about New York will only continue to grow.

In closing, I would like to add that although the Federal Government Wetlands Program is meant for the whole country, its effects are not felt equally by all. Erie and Niagara counties have a unique geology, hydrology, and microclimate which means that the possibility of finding wetlands here are much greater than most other areas of the country.

As far as I know, no one has ever determined how much wetland is needed to achieve a desired goal. Reaching the goal of "no net loss" of wetland, espoused by the Bush administration and the New York State Department of Environment and Conservation, will be a hollow victory if it is accomplished by designating broad areas such as Erie and Niagara counties as wetland while leaving other counties and States untouched.

I would simply like to add that since I sent in my written remarks, I have had the ability to talk to one developer, and I think the case history of this person will be very illustrative of the problem.

The site in question is a 20-acre site that is being developed for 13 small commercial buildings. Total value of the project is $12 million. The first two buildings are already under contract. In other words, they have been sold, although no work has begun, and one of those is to a company that is relocating to Buffalo from outside the area, so bringing business in.

Briefly, the process began in October 1989 when the rezoning work began on the site. Rezoning work was completed by June 1990. Construction was set for September 1990 when the property closed. Several days before the sewers and water lines were to go in, which was the conception of construction, Erie County notified the general partner that no work could begin until written clearance had been obtained from the Army Corps of Engineers.

From September 1990 to January 17, 1991, work was done preparing the application for submission to the Corps of Engineers. So, in other words, it took from September to January 17th just to make the application complete. The application was delivered on January 17th. The applicant was told that it will be 2 to 8 months before a determination will be issued.

This means that the project is going to be delayed, even if it is approved, anywhere from between 6 to 12 months. The interest cost alone on the land will be between $42,000 and $84,000. This does not include anything for the costs of the applications, attorneys, anything like that.

The report shows that of the 20 acres, .534 acres are wetland or less than 3 percent of the land in question. So, the project is going to be delayed at least 6 to 12 months if it is approved and less than 3 percent of the land in question is wetland. So, no one should leave here with the idea that the entire project or the entire amount of land is wetland. A very, very small percentage of wetland on the entire parcel is sufficient to delay the whole program.

When it is taken into consideration with what Mr. Brody said before, that if you were to break up Erie County into parcels, 10-acre parcels, 75 percent of those would contain some sort of wetland, you begin to see the frightening implication that there is almost no project possible here that does not need to go through the application process.

As a matter of fact, I have been told by a number of soil engineers that the largest areas of well-drained alluvial soil, the areas that are least likely to be wetland, are located in the extreme southern portions of the county. The percentages go up when you start to look at the lands that are most likely to be developed.

That is all I have to say. Congressman, thank you for the opportunity.

[Mr. Symoniak's statement may be found in the appendix.]

Chairman LaFalce. Thank you. Our next witness will be Mr. Michael James, representing the Lockport Board of Realtors.

TESTIMONY OF MICHAEL JAMES, PRESIDENT, LOCKPORT BOARD OF REALTORS, INC.

Mr. James. Thank you, Mr. Chairman. I will try to be very brief.

In my capacity as president of the Lockport Board of Realtors and a director of the New York State Association of Realtors, I have closely followed the proposed changes in the New York State Department of Environmental Conservation's Freshwater Wetland Regulations. If I bring any prejudice to this hearing, it lies with my sincere belief that private property ownership is essential in a democratic society, and it must be defended and promoted if we are to continue as a strong Nation.

The following is a letter which was drafted and submitted to the Department of Environmental Conservation's commissioner, Thomas C. Jorling. I will read it at this time because it effectively sums up the position of the New York State Association of Realtors, a trade organization with over 40,000 members as well as the Lockport Board of Realtors with membership in excess of 300 people.

> Dear Commissioner: This letter is being written on behalf of the Lockport Board of Realtors regarding the proposed changes in the Department of Environmental Conversation's freshwater wetlands regulations. In concert with the views recently expressed by our New York State Association of Realtors, we believe that a better balance between environmental concerns on one hand, and private property rights on the other, must be struck.
>
> Of great concern is the potentially detrimental effect that the proposed changes will have on landowners in New York State. From their viewpoint, the system currently in place is seemingly unable to provide timely and definitive answers. Thus, we often see environmentally sound development plans becoming economically unsound during the current 3- to 5-year application process in which a final conclusion may never be reached. Further expansion of the present system without effectively correcting existing problems, especially in light of the current State budget cutbacks, seems unwise. Our housing industry is already suffering in the throes of a nationwide recession.
>
> The concept of a "no net loss" policy is vague enough to allow for great misconception. Seemingly, a shift in practice of this magnitude, without the New York State Legislature's involvement, goes beyond the authority of the Department.
>
> The proposed reduction in your jurisdictional threshold in cases of unusual local importance for parcels under the current 12.4-acre limit, opens the door for potential delays and financial burdens to property owners far and beyond anything experienced to date.
>
> Consequently, we are calling for a comprehensive review to be undertaken by the State legislature to encompass not only the proposed changes in the regulations, but also to address the shortcomings of the present system. To be considered of primary importance are the potential adverse impact on the rights of private property owners, land values, and municipal property tax bases.
>
> The Lockport Board of Realtors strongly urges the Department of Environmental Conservation to work with the Legislature in improving the process in order to lessen these threatened adverse effects. We further encourage open discussion to develop a "no net loss" policy that preserves the rights of property owners in New York State as well as preserving our vital wetland areas. Let us not add private property owners to the list of endangered species. Yours truly, Michael James, Lockport Board of Realtors.

I would also like to enter into testimony a letter that has been addressed to Congressman LaFalce on behalf of the Niagara Falls Area Board of Realtors and written by their current president, Margery L. Stratton.

> Dear John: In preparation for the closed legislative session to be held January 22, I would like to put some thoughts together regarding the current wetlands regulations and its effect on the real estate industry in the Niagara County area.
>
> Our area, the towns of Lewiston, Porter, and Wilson, contain many farms. Each year more and more farmers are retiring and many of them do not have children who wish to carry on the family farm. Any land that is declared wetlands may continue to be farmed but cannot be sold for development. A case on which I am now working is a 17-acre parcel on Balmer Road. The New York State Department of Environmental Conservation has affirmed that this land is not included in the wetlands area. However, their affirmation included a statement that the United States

Corps of Engineers should be contacted to determine whether any federally regulated wetland occurs on the property. A response from the U.S. Corps of Engineers contained a packet of applications to be filled out. As the purchaser of the Balmer Road parcel is applying for a grant from the State of New York for affordable housing, he is required to obtain a letter from the New York State Department of Environmental Conservation stating that the property was not in the wetlands. The town of Porter map showing wetlands in the town shows that the subject property is not in the wetlands area.

The above information is one of many cases that affect landowners whose property cannot be sold or who are subjected to endless paperwork and frustration while they try to develop their property. The need for affordable housing is great in Niagara County. Property such as the example cited above is high and dry, passed Health Department percolation tests, drainage survey, et cetera, all expenses borne by the prospective purchaser and should not be subjected to further delays by a Government agency.

We urge you to assist your constituents in your district by persuasion, legislation, or whatever it takes to cut through the bureaucratic red tape that is plaguing landowners, prospective sellers and the real estate industry in New York.

In summation: According to the Niagara County Soil and Water Conservation District, the proposed changes in defining a wetland to include hydric soils or soils with potential hydric inclusions could potentially classify up to 66 percent of all Niagara County land and up to 53 percent of all Erie County lands as wetlands. Currently, less than 5 percent of the land is so classified. The Niagara County Legislature and 10 other local municipalities have already passed resolutions opposing these changes.

Why have so many citizens expressed outrage at the impending changes? Simply because these individuals are by far, hardworking, tax-paying residents of Niagara County who see, in many cases, a lifetime of hard work potentially threatened by devaluation of their property. Land so designated would be rendered virtually worthless in terms of resale value and properties not so designated would logically escalate in price. This would only serve to make housing less affordable with supply and demand reality coming into play.

If the aforementioned tragedy should take place, the ramifications will be much more far-reaching than this. Small businesses, firms that supply builders, developers, and homeowners with materials and supplies will be among the main losers. When a home is marketed for sale and subsequently sold, improvements almost always take place. The roof is replaced, or the heating system upgraded, new siding covers a shabby exterior, rooms are painted, carpets are torn up and replaced. All of this flurry of activity adds up to one thing: money is being pumped back into the local economy. On top of that, employment is safeguarded, sales tax and property tax revenues are enhanced. With a slowdown of the transfer of property, the economy effectively stagnates.

The ultimate irony is the existence of two primary agencies, one being the DEC and the other being the United States Army Corps of Engineers, both of which are involved in essentially the same regulatory capacities. However, it seems that often the findings of both agencies are in conflict and property owners are left with the dilemma of having to hire private consultants at high fees to prove a case they likely will eventually lose anyway. If one thinks that delays are solely the province of the DEC due to its understaffed position, Diane Radon, senior biologist of the Army Corps admitted much the same is true of her agency in a presentation to the Buffalo Chapter of the New York State Commercial Investment Division on January 22 of this year.

In conclusion, it is our opinion that much more could be gained if legislative hearings were conducted with both the DEC and the Army Corps in attendance. Only through open communication and compromise can property owners' rights be assured. Condemnation without compensation will not be tolerated by the people of this State. Thank you.

[Mr. James' statement, with attachment, may be found in the appendix.]

Chairman LAFALCE. Thank you very much, Mr. James. Our next witness will be the supervisor of the town of Wheatfield, speaking not only on his behalf, but on behalf of other public officials too, Mr. Terry Kuehn.

TESTIMONY OF TERRY W. KUEHN, SUPERVISOR, TOWN OF WHEATFIELD

Mr. KUEHN. Congressman, I appreciate the opportunity to speak on behalf of local government, and I thank you and your committee members.

If the Army Corps of Engineers continue to adhere to the "no net loss" theory under current regulations, areas like Niagara County will be deprived of approximately 65 percent of the remaining developmental property by virtue of its excess of hydric soils. A recent inquiry for possible subdivision review approval took place with the Buffalo office of the Army Corps.

I might say I was up there on other issues relating to the flood maps, and in talking to that branch of the Army Corps, I asked them if perhaps they were working for the same people, maybe they could open a door for me.

They indicated to me that, in fact, the door was locked over there, and "Please don't go over there because we don't even talk to that other branch." So, it would just be impossible to go to the regulatory branch. It is a very frustrating situation even to go to the Army Corps.

In fact, it was met by a backlog of 200 subdivisions and more than a 1-year review period, primarily because of staff constraints. Delays of this duration, even with eventual approval, would destroy many of the local developers. If new policy or legislation is initiated, it is the responsibility of the lawmakers to make it equitable. The present proposal is not that.

Other adverse effects of additional regulations are:

One, there would be a loss of revenue due to the loss of property taxes.

Two, our area has a lot of potential because of wetland characteristics, such as power resources. Wetland regulations deter that growth. A workable definition of wetlands should make reference to the values it seeks to protect and not simply to the physical features of soils or vegetation.

Three, the bureaucratic process needs to be streamlined. These regulations only give more responsibility to and broaden the regulatory authority of already overburdened, understaffed State and Federal agencies.

Four, on the Federal level, any costs related to analysis is the responsibility of the developer. This condition places undue pressure on the builder.

Five, the State and Army Corps of Engineers in many cases duplicate their review requirements and procedures. This creates extra work for the developer, and the costs in delineation, delays, and resulting expenses can substantially affect the cost of development.

Six, the potential of costly reviews and lengthy review processes will deter many outside investors.

Seven, we already have an abundant wetland resources for our area. The additional strict enforcement of regulations here will not help other areas with crucial water shortages and wetland deficiencies.

The point is that the county of Niagara has experienced poor economic conditions; and now, when the opportunity for quality growth is here, the last thing we need are additional rule changes that make many proposed costs prohibitive and, in fact, impossible. Many farmers in my town of Wheatfield are fighting to maintain farms that have been in their families for over 100 years. They realize now that they must sell all or portions of their farms to support their own families. If their farms contain wetlands, they cannot profit from the sale. If State and Federal Governments want control of this land, let them purchase it at fair value thereby maintaining local tax bases. The President is leaving the farmers with next to nothing; and if the States, in typical fashion, attempt to preempt Federal legislation, local government will no longer exist in its present format.

As stated previously, equally affected are commercial and industrial developers who operate within windows of opportunity that are sensitive to the marketplace and financing conditions. In Wheatfield, the proposed $300 million Summit Park expansion and three new industrial parks would be adversely affected by this new plan.

Clearly, designation of 65 to 70 percent of the remaining land in Niagara County as wetlands is far from fair. I would suggest more State and Federal Government cooperation in Western New York, one of the few bright spots in New York State's sagging economy. Let us retain our current competitive position. To change this condition now would be economic suicide. Reconsideration of the entire wetlands regulations is our only recourse.

I thank you again for the opportunity to speak to you this morning.

[Mr. Kuehn's statement may be found in the appendix.]

Chairman LaFalce. Thank you very, very much.

I want to thank all the members of the panel for their fine presentations and assure them that I will be carrying these messages back to Washington with me. Thank you very much.

Mr. Brody. Mr. LaFalce, I had two items that I had wanted to give you also for the record. The first one is a book that is put out by the Urban Land Institute which we feel is a very good unbiased look at the wetlands problem in the United States, and the second you may have already seen, but this is a summary of Jimmy Hayes' proposed legislation.

[The book and the bill H.R. 5968, with summary, may be found in the appendix.]

Chairman LAFALCE. I am a cosponsor of it; yes.

Mr. BRODY. I thought you were. Thank you.

Chairman LAFALCE. Will Messrs. Caryk, Tillman, McKenna, McElheny, and Weller please come to the witness table.

OK, if we could all be seated, the second panel will begin. We have heard four witnesses. They were all of similar mind representing the public or the small business sector. A representative from the environmental community, Mr. Philip Weller, the executive director of Great Lakes United, contacted our office and asked to come to give an environmental perspective; and I think it is imperative that we have that environmental perspective. Mr. Weller's group, Great Lakes United, represents a number of different organizations, and so, we will call upon him as our first witness now.

Mr. Weller.

Mr. WELLER. Thank you.

Chairman LAFALCE. Again, I will put the entire text of all your prepared remarks in the record. You may read them, if that is your desire, or you may summarize them, if that is your desire.

TESTIMONY OF PHILIP E. WELLER, EXECUTIVE DIRECTOR, GREAT LAKES UNITED

Mr. WELLER. Thank you, Congressman LaFalce. I would like to pick out some of the key points out of the testimony that I do have prepared. As you have indicated, my name is Philip Weller, and I am executive director of Great Lakes United. Great Lakes United is a binational coalition of over 180 organizations, including sportsmen's groups, environmental groups, unions, governmental, and research organizations that are dedicated to the conservation and protection of the Great Lakes environment.

On behalf of Great Lakes United, I would like to thank you for the opportunity to present our organization's views on the impact of existing and proposed laws and regulations intended to protect wetlands.

As you know, Great Lakes United was formed in 1982 in response to citizens' concerns about pollution and other degradation of the Great Lakes region. While much of our effort has been devoted to addressing the problem of toxic contaminants, we are equally concerned about damage to important natural features of the ecosystem such as wetlands.

I think one of the central elements that has got to be emphasized is that wetland quality and quantity have declined dramatically in the Great Lakes region since the arrival of European settlers in the late 1700's. That decline has been so severe that at present there is only about 30 percent of the original wetlands remaining in the Great Lakes region.

These wetlands areas are critical to the ecological health of the Great Lakes region. They provide vital habitat for fish and wildlife. They protect water quality of lakes and streams, and they provide important economic benefits, including minimizing damage from flooding and erosion and providing areas for a number of popular recreational activities.

We in this region cannot afford to lose the important economic gains that result from these wetlands functions. Throughout the past 2 years, Great Lakes United has worked with about 20 key organizations in the Great Lakes region to develop a Great Lakes wetlands policy agenda, and early last week, we publicly released the recommendations from our work, and I have copies of that report which I want to present to you. There is a summary of the recommendations here.

[The report and summary may be found in the appendix.]

The principal finding of that report, and one that I have stated earlier, is that "Because of the essential link," and I am quoting here from the report, "between wetlands and the vitality of the Great Lakes ecosystem, immediate action is necessary to increase the quality and quantity of the Basin's wetlands."

First and foremost, it is our strong belief that the Federal Government and the Great Lakes States and provinces should jointly adopt Basin-wide principles for wetland conservation and restoration. We support the goals expressed by both the Federal Government and the State governments for "no net loss" of wetlands.

One of the critical mechanisms by which this can be achieved is providing incentives for the protection of wetlands to both local governmental jurisdictions and to individual landowners. Governments at all levels can and should be encouraging private stewardship of wetlands by creating economic and other kinds of incentives for private conservation of wetlands. These incentives should include property tax relief, direct purchase of developmental and recreational rights, and a number of other programs that can be utilized to protect existing wetlands without causing undue hardship for those whose land contains wetlands.

There are a number of Federal programs which currently undertake to provide this kind of financial support for local landowners, including one such program called the Waterbank. Unfortunately, this program, among other programs similar to it, has been underfunded by the Federal Government, underfunded below the $30-million level that has been authorized annually.

There are also problems with the existing laws to increase the tax incentives for conservation gifts to nonprofit organizations or Government entities of lands including wetlands. I will not go into the details of those tax problems. They are listed in the testimony, but suffice it to say that with an addressing of this particular concern, much of the wetlands, the area that is of concern can be protected without undue hardship to individual property owners.

As I have indicated, we as an organization support an increase in the incentives to protect wetlands. It is essential, however, that in addition to incentive programs, strong Federal, State, and local wetland regulations are in place to prevent destruction of valuable wetland resources.

In recent months, there has been considerable confusion about the Federal and State mapping and delineation of wetlands, and, while we recognize that there is a need for greater clarification and public understanding of the changes that have been made, we strongly support these changes because they more clearly delineate wetland areas and are designed to better protect this wetland resource.

In fact, the changes that have been proposed are an attempt to consolidate and coordinate the existing legislation such that they are more compatible; not to make them less compatible, but to make them more compatible.

We are concerned about conflicting wetland definitions, and we support the adoption of a common definition of wetlands for regulatory purposes. We recommend the adoption of the definition agreed upon by the U.S. Federal regulatory agencies.

In conclusion, we would like to state our strong support for Federal laws such as the Coastal Barrier Resource System and the Swampbuster provision of the farm bill that attempt to limit Government funding of activities destructive to wetlands and coastal resources. We are very pleased that these two programs were extended in the previous Congress.

In conclusion, we would like to state our firm belief in the need for strong wetland protection programs. Wetlands are not wastelands. They are areas critical to our economic and ecological wellbeing.

Protecting wetlands is a not a short-term expense; it is a long-term investment. Thank you.

[Mr. Weller's statement, with attachments, may be found in the appendix.]

Chairman LaFalce. Thank you very much, Mr. Weller.

Our next witness will be Mr. Rostyslaw Caryk, an ecologist who has done considerable consulting work in this area. Mr. Caryk.

TESTIMONY ROSTYSLAW CARYK, SENIOR ECOLOGIST, BEAK CONSULTANTS, INC.

Mr. Caryk. Mr. Chairman, I am a senior ecologist with Beak Consultants, Inc., working out of its Akron, New York office. My educational background includes a B.S. in biology from the State University of New York at Buffalo and a master of science from the Department of Natural Science and Mathematics at the same university. My background includes over 15 years of experience in environmental consulting.

This past spring, I completed a course given by the Wetlands Training Institute, Inc., on conducting wetland delineations using the Federal Manual for the Identification and Delineation of Jurisdictional Wetlands.

The course was conducted by two instructors who had assisted in developing the manual and trained the U.S. Corps of Engineers personnel in the use of the manual. Although this does not constitute a certification in doing delineations, it has provided me with a basis for understanding and applying the procedure in a manner consistent with training provided to the Corps. Recognizing that the use of the manual will significantly change the extent of currently identified wetlands and, therefore, increase the extent of Federal jurisdiction and subsequent permit requirements for this geographic area, Beak Consultants and the law firm of Whiteman, Osterman and Hanna conducted three wetland seminars over the past year, beginning with one in Buffalo on June 28, 1990. Various Federal agencies participated, including the U.S. Corps of Engineers and the New York State Department of Environmental Conservation. More recently, I participated in a similar workshop on wetlands sponsored by the Erie County Department of Environment and Planning.

Overall, I feel that as an objective nationwide guide, the manual provides a workable and valuable tool for identifying and defining the boundaries of a wetland. It provides a generally sound scientific basis for being able to draw a line which is defensible, and not capricious, in the transitional zone between uplands and wetlands. Although there is room for considerable professional judgment, the Field Guide allows the location of the line to be independently and objectively judged. The location of sample points and the results of these sample points can be examined, analyzed, and verified in the field, if necessary, by the regulatory agency.

This Field Guide was written to encompass wetlands found throughout the United States, using three general indicators: Hydrology, soils, and vegetation. This may have led to an overly broad interpretation of the criteria for wetlands in order to encompass all important wetlands in each climatic zone of the United States. For instance, the definition of a hydric soil indicates that the soil must be saturated for seven consecutive days during the growing season. This 7-day period may be sufficient to sustain an important wetland in a relatively arid habitat. However, in a wetter climate, such as in Western New York, the same 7-day period may identify an area of relatively little wetland value as a regulated Federal wetland.

Some consideration might be given to producing regional versions of the Field Guide to reflect more appropriate criteria for different geographic/climatic areas. However, I believe that there is a more important part of the permitting process which must be addressed before examining the advisability of using such a regional Field Guide approach.

The question of wetland value is, I believe, the real problem in the Federal permit process. the Field Guide was written to allow an area to be identified as either a wetland or an upland. After being identified as a wetland, all wetlands are treated as if they are of equal value. The Field Guide was not meant to evaluate the wetland relative to its potential——

Chairman LaFalce. This is perhaps the greatest problem. Everything which is a wetland has to be treated the same way. There are no degrees right now of wetlands. You go into a swamp and that truly is a wetland; you go where it has rained, and it may be defined a wetland, and you have to give it the same treatment. That is absurd.

Mr. Caryk. That is true.

The Corps is actually enjoined by a Memorandum of Agreement with the EPA to evaluate permit applications to fill wetlands by requiring three sequential actions by the applicant. The sequential part of this is the most important. First, avoid the wetland entirely; second, minimize the project-related adverse impacts on the wetland resources, assuming avoidance is not justified; and, finally, mitigate for the remaining unavoidable environmental impacts.

This means that the value of the impacted wetland cannot be factored into the evaluation until the first two steps are met. Again, all wetlands are treated equally. The applicant is required to successfully prove that the proposed project cannot avoid filling the wetland on the site, or that the project cannot be relocated to a nearby site without wetlands before addressing any mitigation plans.

This is very hard to do if the project is not water dependent, such as a parking lot. An example of a water-dependent project is a boat-docking facility. If avoidance cannot be accomplished, no opportunity exists for an applicant to prove that the wetland has a limited function that could be relatively easily replaced or even enhanced.

On the surface, this may appear to be sound policy.

Chairman **LaFalce**. Avoidance might mean, "Just don't build here. Buy some property someplace else and build it someplace else." Right?

Mr. **Caryk**. As long as there is an area that does not have wetlands and does not have other adverse environmental impacts, that other site is considered a viable alternative site, whether you own it or not.

On the surface, this may appear to be a sound policy as we are prohibited from destroying wetlands if we can avoid them. However, since the definition of a Federal wetland is far reaching, there exist extensive areas with jurisdictional wetlands that are of questionable value to the ecosystem.

Let me use an example of a hypothetical 10-acre site that was drained and farmed in the past, but then was allowed to go fallow over the years and has regained its jurisdictional wetland status.

Due to continued development surrounding the subject area, it has become isolated and abused by the gradual accumulation of trash and appears to be of little wetland value to the community or environment. A project is proposed which would fill five acres of wetland on that site and restore and protect the remaining five acres. As additional mitigation, a new wetland will also be created in another less developed area of the township adjoining another existing wetland. This project would fail the avoidance directive if any other nonwetland land was available for the project nearby, or the project did not address a substantial community need, such as a hospital or jail. No opportunity exists for the Corps to evaluate the proposed mitigation. It cannot judge if the development of five acres of the wetland, in return for the creation of a wetland having greater value near an existing wetland in a designated town green space coupled with the enhancement and future protection of the remaining five acres, is suitable or realistic.

Although this mitigation may sound ambitious, the point remains that the proposed mitigation could not even be discussed if another nonwetland site existed. This other site could also contain the last vestige of a mature upland forest in the entire area which may be more valuable than the isolated wetland. In some geographic areas, upland habitats are less common and may be of more value through increased diversity to an ecosystem than is another wetland.

Another example typical of this area is that of a landowner wishing to develop part of his land located along an existing town road. If a significant part of the land is designated as wetland, he most likely will not get approval from the Corps of Engineers for a subdivision plan to preserve, enhance, and expand certain wetlands on the property in exchange for the right to develop other wetlands on his property as long as there are other available properties without wetlands nearby.

It must be remembered that section 404 regulations were not specifically written to protect wetlands, especially isolated wetlands, but to "regulate the discharge of dredged and fill material into the waters of the United States," ostensibly for the purpose of maintaining or improving water quality. Because of this, a number of loopholes exist. A recent Regulatory Guidance Letter addressed one such loophole where a developer proposed to use pilings in a wetland to build over a wetland, therefore not "filling" it.

The Corps has asserted jurisdiction over this practice, defining such activity as fill. However, another builder may completely span a wetland with a building, but set the foundation completely outside the wetland. No wetland fill is involved, but the wetland is effectively destroyed. The jurisdiction of the Corps ends at the wetland boundary line in an isolated wetland. Again, the point is that the law was not written to protect wetlands.

There is a provision in Section 404 Permit Program regulations which allows the discharge of fill of up to one acre in certain isolated wetlands. This nationwide permit allows an individual owner to build a home, assuming less than one acre of wetland is filled, without going through the long, expensive, and uncertain process of obtaining an individual wetland fill permit.

A nationwide permit can also be granted for fill involving between 1 to 10 acres, but a predischarge notification is required to be issued to the public and, of course, the EPA, and other interested agencies. This action can result in either an individual permit being required or the rigorous review of the project using the 404(b)(1) guidelines which are the avoid, minimize, and mitigate criteria by the Corps before issuing a nationwide permit.

However, the owner can use the provision of this nationwide permit process to fill even more than one acre by subdividing and selling off individual lots, if those lots border an existing road. This enables each new owner to obtain an individual nationwide permit and subsequently fill up to one acre of wetland on that lot. The use of this loophole may eventually result in the piecemeal destruction of the entire original wetland.

The nationwide permit allows the fill of high-value wetlands, if the applicant is impacting less than one acre, as the wetland is typically not evaluated in the context of its place in a large ecosystem.

A town that contains a high percentage of wetland acreage, and still desires to expand, is placed in the same predicament as the landowner cited above. Officially identifying large areas of Federal wetlands may deny the town the opportunity of developing part of those wetlands in return for various mitigation plans, even though the wetlands may be single function, low-value wetlands. The town may choose to allow a piecemeal and fragmented development approach. There are situations where there are extensive but primarily single function wetlands in the town which, viewed from an entire drainage basin perspective do provide a valuable flood control role. The use of a fragmented approach which would allow the destruction of many of these wetlands would be environmentally disastrous in the long run. It would be better to require all development to contribute to a general fund which could be used to purchase and develop land for flood control and/or wetland enhancement or expansion.

The evaluation of an environmental impact would be better served by adding a step in the permit application process to include the evaluation of a wetland's function, prior to applying the "avoid and minimize" directives. Wetland protection can become more meaningful in general and more appropriate and sensitive to the value of particular wetlands in different regions of the country, if proper safeguards and guidelines are used, coupled with a reevaluation of conditions for granting a nationwide permit.

One of the problems a person faces in developing or purchasing a parcel of land is in determining if there is a wetland on the land. Previously, the owner or prospective purchaser could examine the New York State DEC wetlands maps and, if a wetland impact was anticipated, could then file a joint application to the DEC for a permit.

That is no longer the case. The owner or prospective buyer must now determine if there is a possibility that wetlands subject to the jurisdiction of the Corps are on the property. This means that the owner must examine various sources of information, including soil surveys and hydric soil lists, U.S. Fish and Wildlife National Wetland maps, New York State Wetland maps, flood plain maps, and topographic maps to determine if there are any indications of wetlands on this property. In addition, the owner needs to verify that the information on the maps is current; that is, nothing has changed that would have created a wetland on the property since the maps were produced.

This implies that the owner must be aware of what a wetland is, using the Federal definition. If the potential for a wetland exists, the owner is advised to have a delineation done to determine if the wetland exists and, if so, where the boundary is relative to the proposed development. The question arises as to who is responsible for the cost of the delineation if the land is being sold. If it is the purchaser, any number of delineations could be done on one parcel.

Once a delineation is completed, the owner is usually advised by the environmental consultant to submit the delineation to the Corps to be verified. Due to the growing awareness of the regulations by both town officials and the general development community, the number of delineations submitted to the Corps increased substantially as this past year progressed. Subsequently, the response time for verifying a delineation has become quite long.

At this time, the Corps is reviewing delineations submitted in the months of September and October. This delay has obviously caused considerable problems for our clients, especially since there is a seasonal restriction on delineations. A developer is justifiably hesitant to spend money in finalizing designs if the original wetland boundary is not approved. This is especially important as our advice to clients is to avoid wetlands in general or, if that is not possible, to qualify for the simplest nationwide permit by limiting fill in an isolated wetland to under one acre. Because the developer is generally precluded from attempting to mitigate any fill over one acre, as they cannot fulfill the avoid directive, there is an understandable desire to maximize their investment by using as much land as they can, that is, using as much of the one acre allowed under the nationwide permit as possible. Since the definition of fill was recently clarified to include "activities using mechanized equipment such as backhoes or bulldozers with shear blades, rakes, or discs" the activity which now falls under the definition of fill has expanded considerably.

Landscaping activity that did not change contours is now included in the wetland impact acreage computation. This makes the placement of the boundary line quite critical and obtaining the concurrence letter from the Corps very important.

The use of both Memoranda of Agreement and especially Regulatory Guidance Letters have made the job of environmental consultants quite difficult. It is our responsibility to our clients to indicate to them where there are jurisdictional wetlands on their projects and to inform them of various options available to them to successfully complete their projects. The continuous use of these documents can easily invalidate our advice, which presently has great influence on decisions regarding property sales or project evaluations. The client could also spend considerable time and money in designing a project which may become inappropriate by the time the plans are ready to be presented to the Corps for approval.

Some consideration should be given to the use of public hearings so that the public is more aware of potential changes or interpretations of various aspects of the wetland permit procedures. This could be done through the use of a formal rulemaking procedure.

The granting of a nationwide permit for an individual property owner or project allows, as was stated before, the loss of wetlands on a piecemeal basis. The Corps has exerted jurisdiction over planned subdivisions and related infrastructure such as streets or sewer lines, treating the entire subdivision as one project and allowing only one acre of fill for the entire subdivision. However, if a subdivision is created along an existing road, simply by selling off the land in parcels with no tangible plans for development, the original owner has no regulatory responsibility to the Corps. The question remains as to the applicability of Federal jurisdiction for lots which gained road frontage when a road is built for a town for access to some site or to relieve congestion. If there is jurisdiction asserted——

Chairman LaFalce. If I were a farmer with a some land and listening to you, I would just throw my hands up and say, "My God, I have no idea what I can or cannot do with my property. All I know is it is going to cost me a lot of money hiring somebody like you."

Mr. Caryk. An economic boost.

Chairman LaFalce [continuing.] "I do not know how much it is going to cost, and whether it is going to be worth it, whether I will be able to do anything. I will just forget about it."

Mr. Caryk. If I understand correctly, there are some directives that are going to be sent to a town indicating an agreement between the DEC and the Erie County Department of Environment and Planning indicating to them when there is the potential for jurisdiction from the Corps and when they should notify the Corps. This should clarify that a little bit.

However, the basic issue of value is still not addressed and also the basic issue that we are not protecting wetlands in a true sense, also a major issue.

Chairman **LaFalce**. Let me just stop for a second.

Mr. **Caryk**. Yes.

Chairman **LaFalce**. Mr. Weller, you are an environmentalist, but what do you think when you hear Mr. Caryk, and you heard Mr. Brody and others talk about the problems to the landowner, to the developer, to the farmer, et cetera? I am sure they share your thoughts that they want to protect true wetlands, but do you share their thoughts on the mind-boggling nature of the Federal regulatory maze, the State regulatory maze, and what this does to their land? It basically confiscates it without any compensation, and it imposes unbelievable costs on them.

Mr. **Weller**. Well, I think I have heard a lot of statements today and previously with regard to the impact of the existing regulations, and we are very sensitive to what those impacts are on individual property owners and developers and are interested in assuring that wetlands protection efforts are not done at the expense of local economies. But it is clearly a case that the regulatory efforts are trying to be consolidated. They are trying to be coordinated, and we are in support of efforts that move toward that kind of arrangement.

I think there has been a reaction against the particular legislative initiatives because there are two parallel processes happening, and we are very much interested in seeing a common wetland definition, and that is why we advocate the Federal wetland definition that has been developed by the Federal agencies for use in all regulatory activities, and we would apply that to a State level as well. This will, I think, eliminate some of the redundancies that do exist and insure that there is an efficient regulatory process that people go through.

Having wetlands declared wetlands does not necessarily mean that they cannot be developed, and a number of people here today have talked about the various measures that can be utilized to insure that wetlands mitigation efforts are undertaken or that there are alternative development proposals for a particular site that allow the wetland to be protected and, at the same time, insure that——

Chairman **LaFalce**. But a fundamental problem is that all wetlands are not alike, and if you treat all wetlands as if they are alike, and, if you have this overly broad definition of wetlands, you cannot avoid this morass of regulation.

Mr. **Weller**. Well, I think it is not so much that the regulations define wetlands. I think it is a trigger point to undertake certain evaluations that then determine the impacts of a particular development activity——

Chairman **LaFalce**. But you do not want to have certain investigations required of any land that is conceivably deemed to be a wetland.

Mr. **Weller**. I think you do. I think——

Chairman **LaFalce**. Well, that is where we have a definite joinder of issues.

Mr. WELLER. Because these areas are, in many instances, providing important downstream benefits in terms of their impact in terms of water quality——

Chairman LAFALCE. You are assuming that.

Mr. WELLER. No; I am not saying that all wetlands do.

Chairman LAFALCE. But the point is whether they do or do not, you have to go through this whole process and only a relatively small portion might in fact provide these benefits.

Mr. WELLER. But what that regulation does is provide you a trigger to investigate the functional values of the wetlands, and I am in support of the issues that have been raised by the gentlemen here that this is something that then needs to be evaluated in terms of what the real value of that wetland is for those activities. I think there are modifications to the regulations and the interpretation of the regulations that are necessary. I have heard many people here who articulated some of the key ones that need to be addressed, but that does not mean you eliminate the entire regulatory program.

Chairman LAFALCE. Nobody is talking about eliminating the entire regulatory program.

Mr. WELLER. Well, I have heard some pretty strong statements in terms of the revoking of the State levels which I think our—the State program—which are aimed at getting a greater consistency with the Federal program. I have heard a variety of people indicate that the delineation manual should be abolished until such time as it can be coordinated or whatever the term people are using here. But that manual is a step forward in terms of protecting wetlands and one that we think needs to have modifications to it or changes based on the concerns that have been raised but should not be eliminated.

Chairman LAFALCE. Despite the fact that it was promulgated without public hearings, promulgated without being——

Mr. WELLER. Well, it was a court interpretation of the law that created the need for that wetland manual, and it is the courts that I think have in a sense set the wetland policy. I think, as some earlier speaker indicated, that is probably not the best mechanism to do it. But I think now we need to insure that this manual does get public scrutiny and that the problems associated with it are raised in public forums.

Chairman LAFALCE. Well, let's get into public scrutiny. Perhaps we need, then, if not to abolish it, then a moratorium on its implementation until such time that it does get the scrutiny. After all, we were living quite nicely prior to this manual——

Mr. WELLER. Well, we were not living quite nicely, with all due respect, because the wetland acreage within these areas, as well as throughout the entire Great Lakes Basin, are being lost at an alarming rate, and that is a principal concern to our organization. The manual does need some changes, and I am very much in support of your interests in insuring that it is imposed on the country in a uniform manner, that it does not cause undue hardship. But it is important that we take a preventative approach and insure that wetlands are protected and insure that there is sufficient staff within the Corps and the State agencies to insure that people are getting permits when there is no problem. This is, I think, one of the main concerns that people have raised here, that there is not adequate staffing, that the Corps is taking too long to go through the permits and make that determination. We are very much in support of increasing the speed with which people can get the permits.

Chairman LAFALCE. We all support that, but there are an awful lot of areas where we just are in fundamental disagreement with the environmental community because we do not think the environmental community is giving adequate consideration to the real world that people have to live in.

Please continue your testimony, Mr. Caryk.

Mr. CARYK. Just as a general comment before I get back to the testimony. Two items, one that you mentioned that there is a trigger. There is a trigger, but unfortunately it is not followed through. Because of the particular Memorandum of Agreement that is currently in effect, you cannot get through the "avoid step." That forces many towns and individuals, even when they do not want to, to destroy wetlands.

The regulations again, and I emphasize this, were not written as the New York State Wetland Rules are to protect wetlands. They were not designed to do that. They are being used for that, and they are allowing wetlands of high value to be destroyed on a piecemeal basis for economic reasons. We need to address at least those two issues.

Chairman LAFALCE. Please continue your testimony.

Mr. CARYK. The Corps has indicated that once a project is granted a nationwide permit for a parcel of land on which a project is located, that permit will be the last one granted for that parcel and then no further subdivisions of the land through sales will qualify for a nationwide permit.

Is the Corps ready to provide prospective buyers with easily accessible maps of all delineations accepted for a particular parcel?

This is especially important after two or three sales of the same parcel on which no wetland development is now allowed. If 0.5 acres of fill is still available under a nationwide permit, and the land is subsequently subdivided into three lots, who gets the remaining available fill?

Is the Corps ready to devote the manpower to pursue such land transactions? Is the Corps willing to prosecute an owner three times removed from the original owner who delineated the land and failed to inform the new owner?

These and numerous other questions regarding the jurisdiction of the Corps have arisen primarily due to the fact that regulations were not written to protect wetlands. Indeed, we can expect that there will be legal actions taken which will question the legal basis for some Federal wetland jurisdiction.

These are issues that will only get more complex as the wetland delineations continue. They may well create an atmosphere of antagonism and distrust between the public and its Federal and State agencies, while neglecting to effectively protect the wetland resource. I believe it is vital that wetlands are protected, but we need either true Federal wetlands protection legislation or some substantial modifications of the wetland "avoid, minimize, and mitigate" directive. Even reducing the acreage of fill allowed under a nationwide permit will not alleviate the problems discussed above.

True Federal wetlands legislation could be similar in scope to the New York State Wetland Act. This act generally prohibits activity which adversely affects State-regulated wetlands through the use of buffer zones and other methods. However, it takes into account the value of the specific wetland being impacted in determining if a project may proceed. Such legislation would enable us to preserve wetlands more effectively, but would also allow some carefully regulated development to proceed.

Currently, the jurisdiction of the Corps ends at the edge of an isolated wetland. Nearly any activity bordering that boundary line is not subject to jurisdiction by the Corps. Because of this, valuable wetlands are functionally lost as they are surrounded by inappropriate development. Appropriate legislation or rule changes would encourage, not discourage, overall evaluations of wetlands in local areas, with an overview of a national perspective.

Thank you, Mr. Chairman.

[Mr. Caryk's statement, with attachment, may be found in the appendix.]

Chairman LaFalce. Thank you. Our next witness will be Mr. Richard Tillman, district manager of the Niagara Soil and Water Conservation District. We have asked Mr. Tillman to speak especially on behalf of the agricultural community in Western New York. Mr. Tillman.

TESTIMONY OF RICHARD TILLMAN, DISTRICT MANAGER, NIAGARA COUNTY SOIL AND WATER CONSERVATION DISTRICT

Mr. Tillman. Thank you. My name is Richard Tillman. I am the district manager of the Soil and Water Conservation District here in Niagara County. I have worked here and in three other Western New York districts for over 14 years. My educational background is in wildlife management, soils, and engineering. I have been working with groups, individuals, towns, and other municipalities on wetland permits for both New York State DEC and the Army Corps of Engineers in that time.

The soil and water conservation districts, of which there are 3,000 of them in the country, are county agencies or watershed agencies that provide services in a wide range of natural resource issues, problems, and management practices including the agricultural field.

Since the spring of this year, our office has been overwhelmed by the number of requests for information and help in understanding the Federal Wetlands Permit Program. There is so much confusion and misinformation out concerning the wetlands program that it is scaring people.

The agricultural community is not against wetlands regulation and preservation. It is quite the inverse. Most of the wetland acreage is owned by the agricultural community, so I do not think the agricultural community is against it.

They are worried how the Federal Wetlands Program will affect their operations, efficiency, and profitability. It is perceived by many that the Corps wetlands procedures are: first, cumbersome and time consuming; second, too broadly interpreted by the Corps staff on what is a wetland; third, Army Corps of Engineers will not provide needed information; and fourth, it is placing a financial burden on farming operations.

Let me go into some detail and give examples of what I have just listed above as perceived problems. The Army Corps of Engineers has been treating all projects, no matter what the size, as major disturbances requiring detailed wetland delineations, engineering information, and designs. This is, in effect, making farmers and town drainage districts criminals because they cannot afford to wait long periods of time to get information back from the Corps, or afford the expensive cost for these delineations.

What I am talking here is most of the towns that I work with here, we have what we call drainage districts. They were formed back in the 1940's or even longer. What they are doing is maintaining the drain structure of the county. Without these systems, the county would revert back to its wetland state. As you heard several speakers talk before, 65 percent of the county has the inherent characteristics soilwise to potentially be a wetland. What these districts are doing is keeping the agricultural community at a profitable state by providing the draining outlets that these farms need.

According to the Army Corps in Washington, DC, agriculture is supposedly exempt from section 404 Corps permits for daily agricultural activities. But in Western New York and all the lake plain counties, our topography is relatively flat and the glacial laid soils compound the need for maintaining our drainage systems to keep the agriculture commercially practical.

Drainage projects are usually not confined to only the farm but may have to cross several farms, woodland, and brush areas for an outlet. The majority of the drainage activities are cleaning and maintenance of existing drainage structures which were built when this land was settled and cleared over 100 years ago. These projects are usually maintained by the owners of the property or the town drainage districts on an as-needed or can-afford basis.

Little to no new agricultural land has been carved out of the wetlands in the last 40 years in Western New York. Quite the reverse is occurring; we are losing cropland. Since 1950, some 60,000 acres of land once cropped has been converted or abandoned in Niagara County alone. Much of this acreage is now showing up as wetland acreage due to the vegetation growing on it. Through these areas, the drainage systems must be maintained to protect upstream agricultural and development areas.

The Corps needs to develop a process to review projects quicker where wetland determinations have already been completed by the USDA Soil Conservation Service determining that existing cropland were prior converted wetlands and are, therefore, exempt from section 404 wetland permits. If a Federal agency, such as the USDA Soil Conservation Service has already designated an area not a wetland, why does it take the Corps so long to confirm this fact? Special consideration needs to be given when a project involves maintenance of an existing structure to handle its designed flow.

The Army Corps staff seems to have varying interpretations of the wetlands manual when determining what is or what is not a wetland. We have heard everything from needing all three wetland criteria; that is, hydric soils, hydrophytic vegetation, and hydrological conditions need to be present. Or only one indicator needs to be present. The definition of "under normal circumstances" can also be interpreted different by different staff employees.

Some examples of the wide range of interpretations which our staff has encountered with the Corps staff over section 404 wetlands permit are:

We had an agricultural field that had hydrophytic vegetation in it and hydrological conditions caused by a damaged drainage system—a broken underground tile line—with no hydric soils or potentially hydric soils. The first Corps staff person we talked with about the site said this area was definitely a wetland, but after several days of discussion with them over the phone, they finally changed their ruling.

Another situation in which we were involved with was when we wanted to clean a ditch in a peach and cherry orchard in soils listed as hydric or potentially hydric. A few hydrophytic plants were present but confined to the ditch itself. The Corps wanted a completed delineation of the entire project watershed. They said that the orchard was a wetland and may need a permit to clean the ditch. If you know anything about agriculture, cherries and peaches do not grow in wetlands. They are very sensitive to moderately poor and poorly drained soils. After several months of discussion with the Corps, they decided that the area was not a wetland.

We have had several drainage projects in Western New York that until a year ago would not have required a Corps review for approval. They have been held up by them for several months now. Funding for these projects through the State Agricultural Water Management Program is hinging on Corps review and approval. But at the rate they are moving, we will most likely fail to receive this funding. The lion's share of these projects are 100 percent in cropland with no wetlands involved.

There needs to be a tightening up of the wetlands manual to reduce the room for broad interpretation by overzealous staff people who are trying to protect themselves from lawsuits.

Obtaining information from the Corps staff is very difficult at times, when you are concerned with permits and getting permits. This I would have to blame on the administration and not the staff people themselves. It is impossible for three or four staff people to handle the several hundred wetland permit applications as well as answer questions on potential permits.

Additional staffing is needed to solve these problems. A staff person is needed just to handle questions and public relations concerning wetlands. This staff person could also be used as an educational programmer for the general public who are screaming for information and explanations. There is a lot of misunderstanding, a lack of understanding about the whole Section 404 Wetland Permit Program.

The Corps needs to come up with maps other than soil maps to show where these wetlands are, much like New York State DEC Wetlands maps. This could reduce confusion of where the wetlands are and if a permit is needed. This would also make life a lot easier for our staff and the Corps staff.

The Corps needs a procedure to handle agricultural drainage projects which they could be inundated with if all agricultural projects followed the proper protocol. This would increase the workload of the already overburdened staff.

The financial burden of the costly wetlands delineations for any given piece of property is becoming a real problem to owners and potential buyers. Agricultural drainage improvement projects by individuals, town drainage districts and groups cannot afford the expense of wetland delineations for each project. The cost of these delineations can make a project economically unfeasible.

A hidden cost affecting farmland is the competition amongst developers for that land. Developers are avoiding areas with potential wetlands and are now competing with farmers wishing to purchase nonwetland agricultural fields. This will unduly raise the value of nonwetland cropland making it cost prohibitive for a farm operation to expand. We are presenting seeing evidence of this in Niagara and Monroe Counties.

Another hidden cost will be the shift in the tax burden of land taxes. Wetlands receiving lower land assessment values due to their limitations will now shift to agricultural land and other property owners.

These are some of the affects of section 404 wetlands provisions on agricultural. Review of the wetlands manual and the permit procedure need to be done. Streamlining and speeding up the review process is also needed. Better communications between the Corps and the public is vital.

Thank you for this time to discuss wetland problems and their affect on agriculture.

[Mr. Tillman's statement may be found in the appendix.]

Chairman LAFALCE. Thank you. Our next witness is Mr. Anthony W. McKenna, engineer for the town of Newfane and the village of Lewiston.

TESTIMONY OF ANTHONY W. McKENNA, MUNICIPAL ENGINEER, REPRESENTING SEVEN TOWNSHIPS AND THREE VILLAGES

Mr. MCKENNA. Thank you, Mr. Chairman. The focus of my testimony will be the effect of the current wetland regulations on local government.

The firm which I represent serves under contract to seven townships and three villages as municipal engineer. In addition, we have represented numerous other towns, villages, cities, and counties on a project-specific basis over the last 50 years of our existence.

We have witnessed and participated in the great infrastructure funding programs of the 1960's, the 1970's wastewater and industrial treatment programs, the 1980's road and bridge rehabilitation programs, and the late 1980's/early 1990's work on solid and hazardous waste remediation programs.

All of these programs were essentially led by Federal initiatives which impacted local communities. In all previous cases, it can be said the positive impacts outweighed the negative.

The current wetland regulations, however, are an exception. This noble legislation which was intended to rescue valuable and diminishing environmental habitat has instead caused delays in worthwhile local initiatives, created confusion for local governing bodies, and usurped the rights of local municipalities to carry out basic zoning, planning, operating, and maintenance functions. I will digress from the record just to give you an example.

We have a case where we had people out, we were trying to do some basic planning on finding out where a gas main was. One of the ways you can find out, obviously, is you use a little detector, and then you do a small excavation to try to find the pipe and then go from there. In this case, we would have had to go through an 8- to 10-week process to get a permit just to find out where the gas main was. It seems a little bit overzealous.

In drafting Federal regulations, it is difficult to create uniform rules which will apply to municipalities of different size. In the case of this legislation, however, an attempt was made not only to make one set of rules which would apply to all municipalities, regardless of size, but also regardless of its topography and hydrology.

As a result, extremely large tracts of land have been classified as a potential wetland area while the value of that land has never been reviewed. In fact, it is my understanding that the value of the wetland is not a factor in establishing whether or not the land shall be preserved.

As examples, I have brought maps of three communities, three towns, and two villages, and I will just start with the town of Newfane. This is the map of the town of Newfane. As you can see, in all cases, the red are hydric soils and the gold or yellow are potential hydric soils inclusion, and approximately 60 percent of the town of Newfane is impacted.

The next township I will show you is the town of Lockport which is in a similar condition to the town of Newfane where the hydric and potential hydric soil inclusions impact 60 percent of this township, also.

What I will show you next is Supervisor Kuehn's township, the town of Wheatfield. In this township, just to show you—it is a little bit unique—90 percent of the town is impacted and of that 90 percent, almost 50 percent is hydric soils.

Then we have two villages which are heavily populated and urban. The village of Youngstown is 90 percent impacted by hydric and potential hydric soils and the village of Lewiston, also fully developed just about, is 50 percent impacted by hydric and potential hydric inclusion soils.

Communities such as these were already struggling with current regulation which included Federal and State of New York mapped wetland areas and the areas contiguous to both. These regulations were controversial enough. The prior regulation took large areas of land and put them into restricted development categories. For agricultural areas, and this is following up on Mr. Tillman's remarks, this has caused great concern since the owners of most small to medium farms consider their land as an insurance policy for retirement.

Most of the farmers have struggled with low prices for their goods, looking for better times, but they always had the land.

We did a local waterfront revitalization plan for the town of Newfane and we had an agricultural subcommittee. There were three or four farm community members on there. Mr. Jack Hall, I remember, did most of the work on it, and he researched this and came up with this, that in all the regulations that have ever been promulgated on agriculture, that has been one of their prime concerns was that they still had the value of their land when it was all done for retirement purposes or whatever.

A review of the municipal maps we have as exhibits shows the extent of the impact of the current Federal regulations. Under current regulations, so much of this area is impacted that it is difficult to believe that all of this is so environmentally sensitive.

I guess we know that it is not. The problem, of course, arises through the arbitrary and very technical means to define wetlands. The means chosen, of course, hydric soils, hydrology, and vegetation. Any land, if it has the right soil type and is wet for a short time each year, can qualify as or be transformed into wetland regardless of its value to habitat or the maturity of its vegetation.

I will give you an example here: Town drainage ditches. If a town does not maintain their drainage ditches, much as a farmer does not, he can cause a creation of wetlands upland of the partially working or blocked ditch. Our question in the municipalities is are we liable to the upland owners for the loss of value of their property? It appears that we could be. But what choice is there, because if you maintain your ditches, if you do not maintain your ditches, you are going to have flooding.

Since the ditches, themselves, can be classified as wetlands, the municipality must go through a nuisance permit process just to carry out one of its basic functions, which is maintaining drainage control.

Returning to the town of Newfane's map, which I will just talk about, you have it in your enclosure there. The town contains hydric or potential hydric soils in the amount of 60 percent of the total land mass. If you consider that the total assessed valuation of the town is 250 million, I guess that means somewhere in the neighborhood of $150 million worth of assessed valuation is affected. In the 1970's, the town built a wastewater treatment plant and miles of collector sewers to prevent the pollution of Lake Ontario and its tributary creeks at the mandate of Federal and State governments. The cost of operating and maintaining this treatment system have skyrocketed in the last 3 years due in large part to new initiatives by the Federal and State governments dealing with sludge disposal. Landfill costs have quadrupled. The town recently increased its rates for sewer use by 50 percent in response.

The best chance the town has to keep a lid on its taxes and retain its economic base, its industries, and its jobs is now threatened by wetlands regulations which will disrupt, discourage, and preclude ordinary and necessary development at a time when it is most needed. This scenario is also essentially true for all the other communities that I have referenced.

Finally, it is impossible to see how these municipalities can effectively zone or master plan their communities, and I think that is a basic function of Government, which these current regulations seem to usurp.

Based on the hydric soil, hydrology, and vegetation parameters, it is impossible to determine what areas can be zoned, planned, and for what purposes. Can you imagine the cost of doing a wetlands delineation for a complete town so that the planning could go forward, and what good are existing master plans and zoning documents which were the culmination of years of effort and thought?

I suggest a more practical solution to this dilemma. Critical and environmentally sensitive wetland areas should be evaluated with proper input from the municipality and its constituents. Those areas which are shown to be of national importance should be mapped as was done by the State of New York in its program.

Here I think it would be advisable for the States and the Federal Government to work together on this issue. In this way, it is possible that a common set of specific wetlands could be identified for protection. Local governments, developers, farmers, et cetera, would then have a reference which would aid in planning and investment.

The final recommendation I would make has to do with compensation to the current landowner. Under current regulation, the landowner of record has unknowingly become the caretaker of what is acknowledged as a nationally important resource. It is kind of analogous to musical chairs. The landowner must also absorb the cost associated with the regulation—the loss of value to his land. This seems inherently unfair, and I believe the landowner should be compensated under eminent domain procedures.

I have heard some talk about tax credits for these people, but, as you can see from my discussion with the municipalities, that would only further exacerbate their problem if we went that way.

Of course, funding this approach would be difficult and perhaps impossible to do at this time. But then again this program would have to stand the test of national priority in the Federal budget process much like all other worthwhile programs.

The recommendations contained in this testimony will preserve the valuable resource, will compensate the aggrieved landowner, eliminates the wasteful, costly, and confusing permit process at the Federal and local level, and allows municipalities to plan, zone, operate, and maintain their municipalities.

I had asked in two particular cases, Mr. Chairman, for developers who were impacted by this legislation to give me a letter. Joe had asked me to do that to see if we could get some more specifics. In both cases, they readily agreed, thought it over at night, called me up the next day, and basically said they did not want to do so.

I am not saying that the regulators are going about this in the wrong way or anything, but if you just presume, as Mr. Tillman did, that you have a small businessman or a small developer, he probably put up a good share of his assets to buy the land he is working on. He is never going to take a chance to come in front of you or put something on the national record that might, in fact, come back to haunt him later. So, in respect to those two people, I will not give any testimony there. Thank you.

[Mr. McKenna's statement, with attachments, may be found in the appendix.]

Chairman LaFalce. Thank you very much, Mr. McKenna.

Our next witness will be Mr. James McElheny, town engineer for Lockport.

TESTIMONY OF JAMES E. McELHENY, TOWN ENGINEER AND PLANNING CONSULTANT, TOWN OF LOCKPORT, NY

Mr. McElheny. I would like to take this opportunity to thank you, Congressman, for allowing us to testify here today. Today, I bring a mixed bag of representation with me. Currently, I am the president of the Western New York Chapter of the American Consulting Engineers Council. I am the first vice chairman of the Eastern Niagara Chamber of Commerce, a member of their Government Affairs Committee, the engineer for the town of Lockport, and a small businessman.

Prior to getting into my detail, I would like to show you our office operating manual on Federal wetlands. This manual contains nothing on the New York State Wetlands Program at all. This is all information related to the soils, vegetation, and identification processes. So, just in volume alone, it is very cumbersome; and it is very heavy to carry around, too.

We are not here on a witch hunt——

Chairman LaFalce. You are not submitting that for the record, are you?

Mr. McElheny. No.

[Laughter.]

Mr. McElheny. We are not here on a witch hunt against the Corps of Engineers. In fact, we feel they are only the messenger. The Buffalo District here has been upholding their mission, and they have been very courteous, professional, and responsive to all of our questions. We would like to focus our testimony on 10 specific issues. Albeit that the presence of wetlands vegetation is the lead, the definition of hydric soils has increased the perception of jurisdiction by more than 400 percent.

The question of the reasonability of the regulations for including soils with potential hydric inclusions, soils which are defined by the Soil Conservation Service as being "somewhat poorly drained" which account for 44 percent of the soils in Niagara County.

The lack of solid recognition in the Federal regulations for the inherent different hierarchy of ecological value of wetlands. The New York State regulations do recognize that hierarchy.

The duplicity and conflicts of jurisdiction where States have wetland protection regulations in place. In fact, New York State has initiated a process of seeking limited jurisdiction under section 404. When they attempted to have a public hearing in this building, they almost had a riot.

The joint agency regulations exceed the legislative intent. We question the fiscal impact of what is becoming the apparent and obvious need for the Corps or EPA to staff up to administer this program.

We question the goal of "no net loss" of wetlands. We question the apparent attempt by the agencies to promulgate uniform regulations nationwide to solve what has been noted to be specific problems in isolated regions, such as those which have occurred in California, Texas, Louisiana, and Florida.

The implied exception for active agricultural lands. Lands that have been in production since December 23, 1985, are exempt under the current regulations. That is very likely to drive developers to acquire active farmlands to avoid the wetlands issue.

Finally, do these regulations achieve a responsible balance of social and economic interests in the community and the Nation?

We hope to demonstrate through some specific examples where current regulations fail to serve the balance of social, economic, and environmental needs of the country and communities at large.

First, let us examine some occurrences that have taken place in the town of Lockport in the last 6 months. Just very briefly some background on the town of Lockport. Under the leadership of Floyd Snyder, the town Supervisor, during the last 30 years, the town has become recognized as one of the most progressive and fastest growing in New York State. This is not unlike Governor Cuomo's acknowledgement that currently Western New York, having suffered its lowest economic recession in the eighties, is probably now the shining star of New York State.

Since 1968, the tax base has expanded from less than $100 million to well in excess of $500 million. During this same period, new construction investments have totalled over $200 million, generating construction jobs, as well as retail, manufacturing, and service sector employment.

Most importantly, this has secured a stable base for General Motors, Harrison Radiators Division, their World Headquarters, which is Western New York's leading private sector employer. Over $180 million has been generated in investment from the private sector alone. The population and employment base in the town of Lockport has expanded from 8,200 to 16,500 this year. While this is a tremendous rate of growth, it is still a modest total population. Lockport certainly does not compare to the boom towns of Texas, California, or Florida which have grown at out-of-control rates.

The picture: A well-balanced, fiscally responsible, and healthy community. What a novel experience in this day and age. Lockport is a great place to live and work in—demographically and socially balanced for the young and old, skilled and unskilled, rich and poor alike.

What does this have to do with wetlands regulations?

Simply stated, the intrusion of another layer of regulation outside of local control.

As a result of the New York State 1975 Freshwater Wetlands Act, wetlands were mapped and field-identified; landowners were notified; and appeals were allowed to be made. In the town of Lockport, this amounted to 700 acres on some 46 parcels of land.

The Federal Wetland Inventory maps were prepared by the U.S. Fish and Wildlife Service. This added another 200 acres of wetlands to the town of Lockport. The Federal Emergency Management Agency had mapped the flood plains, so at the local government level, we had the tools, and we had a good and reasonable handle on the known protection areas. In the town of Lockport, this amounted to about 16 percent of the land area, as shown on the map to the left.

The environmentally sensitive areas were included in the town's 1980 master plan update, which is shown as exhibit 2 in the handout. These are noted to developers when they approached the town for site plan and zoning review. The flood plains and wetlands maps are available, are on display, and applicants and owners of land can be made aware in the town of Lockport.

Last year, with the addition of the soil classes, these jurisdictional boundaries increased from 16 percent of the land area, as shown on the left, to 65 percent of land area, as shown on the right. That was a 400-percent increase in the jurisdictional potential. Suddenly, two-thirds of the town land was in jeopardy of regulation, the difference all being the interpretation of the soil characteristics.

This condition is typical of the geology of Western New York, much of upstate New York and the northern tier of Pennsylvania. This broad jurisdictional issue is what has raised this area's concerns and creates the confusion and uncertainty at all levels.

Let me cite some specific examples of developments in the town of Lockport. First, a 20-lot subdivision directly adjacent to a mapped State wetland, but not a wetland mapped on the Federal inventory. This is a known area of problem drainage which has caused flooding downstream. The wetland was pointed out to the developer, and the developer approached the State DEC, 3 years ago. They declared at that time that there would be no use within a 100-foot limit around the field-established wetlands.

DEC said no to the option of enhancing the wetland to utilize it as a beneficial drainage area under the "no net loss" policy.

Then the Federal jurisdiction last year required the hiring of two independent professionals who could not agree on the boundaries to be determined by soils, or hydrology, or vegetation.

The Corps of Engineers raised the further concern about the possibility of the existence of a violation and, therefore, penalties due for some fill material that had been placed from the adjacent project, 3 years prior, outside of the State mapped wetland, before anyone was even aware of the Corps' jurisdiction.

The conclusion after an almost 3-year delay, most of the delay due to the developer's own uncertainty—the Corps of Engineers has granted a permit to the land area allowing for the construction of 14 to 15 units. The added direct cost to the project has been about $12,000 plus the loss of $350,000 to $500,000 of income and not including the carrying cost over the 4 years of delay.

The discrepancy involved was over the interpretation of where the wetland boundary actually was, within 100 feet—the same area that was mapped 3 years prior by the New York State DEC in the field.

The second example is a 71-lot subdivision on about 60 acres of land. Single family homes in the range of $90,000 to $110,000. The project is currently delayed, strictly due to the appearance of soils with potential hydric inclusions. The site is not encumbered by any mapped jurisdictional wetlands or flood plains. After careful review and field analysis by a professional, no State jurisdiction was determined. But 1.2 acres of Federal jurisdictional wetland were identified along an existing drainageway which had not been sufficiently maintained within the last 10 years. Also, a small pocket of emerging wetlands, amounting to about 0.3 of 1 acre, was identified.

A permit has been applied for and is pending at this time. The result: construction has been delayed one construction season; two lots have been altered to avoid the 0.3 of an acre wetland.

The third example is several en masse. Currently, permits and approvals are pending at the town level on 15 applications accounting for over 660 lots, 111 apartments, and 1,200 mobile home lots. Two projects already missed the 1990 construction season. About 7 or 8 will likely be delayed until late into the 1991 construction season until seasonal wetland issues are determined and further planning can be accomplished.

Two projects may be indefinitely suspended or will likely be abandoned. The process has added 2 to 6 months lead time to determine marginal, at best, wetland areas and permissible mitigation measures to the proposals, avoiding the wetlands.

In summary, we ask you to examine our exhibits, where the mapped wetlands fall dominantly in excess of 90 percent within the red area, and the town of Lockport overlay. You can see some dark spots. Those dark spots are the mapped wetlands, and they do fall predominantly within the red area which is the hydric soil area, but not all hydric soils are wetlands.

Less than 10 percent of the mapped wetlands fall within the yellow area, which is the area with the potential hydric inclusions. Do the regulations even make sense?

Exhibit No. 5 in the packet, which unfortunately I do not have as large scale, I think shows a reasonable representation of the order of magnitude of the jurisdictional expansion that occurs when you look at the percentage of soils governed by the various regulations. Assuming that the 1989 promulgated Federal criteria is 100 percent, when you remove the soils with potential hydric inclusions, that area falls to 33 percent of the total. When you compare that to the New York State mapped wetlands of previous years, that is only 9 percent, and when you add in the classification and valuation of what was known as the class 1 and 2 wetlands in New York State, they only represent 2 percent of the total jurisdiction. So, we do have a very wide span in the order of control.

Not all hydric soils are wetlands, yet all hydric and potential included hydric soils are treated as wetlands until proven not guilty.

Our recent experience has been that the new wetlands identified outside of the existing mapped areas are typically along drainageways, pockets of less than one acre, and are of very marginal ecological benefit. Yet, they will be avoided with added cost in time and value to the buyer.

Our point is that the current regulation expands the wetland jurisdiction needlessly by 400 percent, and needlessly exposes two-thirds of the town and this regional land area to full review to determine even if a Corps permit is required—all to preserve very small pockets of wetland, mostly emerging wetlands found to be marginal.

Almost all local agencies have adopted a policy of no further review until the Federal wetland jurisdiction has been determined. This action represents exposing in the town of Lockport, alone, $94 million of construction, construction jobs, material, manufacture, and supply and a spinoff loss at a ratio of 3-to-1 of about $380 million to the local economy in 1991, most of this from small business concerns.

Finally, where does the lender's liability fall? Are the lenders being exposed to valueless land that has already been committed to loans?

We would like to close with the following recommendations: Reexamination of the "no net loss" policy; consider the valuation or classification of wetlands by function, size, and support systems; although dynamic, map, identify, and declare where the jurisdictional wetlands are; eliminate the duplication in the State's efforts where applicable; consider a more realistic minimum acreage limitation, such as 10 acres; allow for the provision of a transfer of development rights and land use control for banking of wetlands; allow a local drainage plan and program exemption for existing municipal ditching systems, without the cumbersome permits and processing; eliminate the soil type condition for soils with potential hydric inclusions; and, finally, provide for active agricultural exemptions where they were applicable here in New York in the past.

Thank you for your attention and consideration. We hope our input has been informative and will assist you in deliberating this matter.

[Mr. McElheny's statement, with attachments, may be found in the appendix.]

Chairman LaFalce. Thank you very much, Mr. McElheny, and I thank all of the members of this panel for their constructive contribution. You may take your seats at this time.

About a week or so ago, I addressed my colleagues in the Congress on the issue of wetlands, and if any of you would be interested in a copy of my remarks, they are on the table over there.

[Chairman LaFalce's address may be found in the appendix.]

Chairman LaFalce. Prior to coming here today, I had no intention of inviting other comments from the audience. I thought that through the individuals who we had contacted and asked to testify, we would have an excellent presentation of the diverse points of view expressed. But since there are a number of you here primarily as spectators, I think some of you might wish to add your thoughts to it. I am not sure.

Are there any in the audience right now who would wish to come to the witness table to give very brief presentations about their perspective? If so, just raise your hand. Three of you. Please come to the table, and for the record, could you please provide us with your name and address.

Mr. Weber. Yes; my name is Joseph Weber and I appreciate——

Chairman LaFalce. Your address, Mr. Weber?

Mr. Weber. 9200 Niagara Falls Boulevard, Niagara Falls, New York.

Chairman LaFalce. Thank you, and you, ma'am?

Ms. Ellsworth. Joanne Ellsworth, Niagara County Department of Environmental Management in Lockport.

Mr. Patterson. Michael Patterson, consulting engineer with McIntosh & McIntosh, PC, consulting engineers, land surveyors, and planners in Lockport, New York.

Chairman LaFalce. Thank you very much. Mr. Weber.

TESTIMONY OF JOSEPH WEBER, NIAGARA FALLS, NY

Mr. **Weber**. I have no prepared remarks, but I do appreciate the fact you did accept a letter that I had written to the DEC Commissioner on behalf of myself and my business. I am that small businessman who is being directly impacted by wetland regulations as proposed by the Corps of Engineers and the EPA.

I acquired 30 acres adjacent to a property that I currently hold about 2 years ago. I thought I was diligent in reviewing the DEC wetland maps to insure that I was not buying a pig in a poke. Having gone through the acquisition of the property and carrying costs that have been described on numerous occasions here by our professionals, I am now at the point where I am going to have to go through what appears to be a Corps of Engineers wetlands delineation.

I have to date spent *x* number of dollars on the acquisition of the property, the location of which cannot be changed. I am not in a position to offer other acreage for a "no net loss" of wetlands. I am not afraid to speak out because I have been involved in this type of situation for 20 years. Again, as was mentioned earlier, I have dealt with the Corps of Engineers before. We have a small stream that flows through property. It is an unclassified stream of a property that we have previously developed. I have dealt with the DEC on flood plain work and those type of things. I do not have a problem talking to them because I have always found that when you go head-to-head individually, we find reasonable people. Sometimes we deal with perceptions and the legend grows, as they say; but I have to say in previous dealings—my concern is that I am working to create what we often describe as the American Dream. I am now working to do a small subdivision of 26 lots. I have $10,000 worth of topography work done to address the issues of flood plain problems, and now we find after acquiring the property that there is a soil type described as hydric on the property that I own. I am sure that I am going to have to do a wetlands delineation, and that is going to be another $5,000 which in some cases might not be a lot of money. But for a small developer, we have $10,000 in topography and $5,000 in wetlands delineation. There will be an environmental impact study I am sure, and when these costs continue to add up, the net result is that it drives the cost of the building lot up to the point where the American Dream becomes unreachable for people who want to buy a house in a moderate price range.

We talk about promoting affordable housing, and affordable housing is going to be that American Dream. But because it is never going to be able to be reached, it will continue to be a dream; and as an individual who is attempting to bring that American Dream to the public and make a profit—we are there, we are in the business of making money—it just has gotten to the point, and I repeat your remarks, of throwing up your hands and saying, "Is it worth the effort to continue to try to move through the bureaucratic red tape that we have to do to try to provide that housing for America."

Thank you very much for listening to my remarks, and I appreciate the fact that we have had an opportunity to speak today.

Chairman **LaFalce**. Thank you, Mr. Weber.

Chairman LaFalce. Ms. Ellsworth, you said you are with the Niagara County Environmental Management Council?

Ms. Ellsworth. Department. I did work with the council and work with them indirectly now.

TESTIMONY OF JOANNE ELLSWORTH, NIAGARA COUNTY DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Ms. Ellsworth. I would like to bring to your attention the impacts of the Federal Wetland Regulatory Program on the waste management issue. Currently, in Niagara County, there is one major landfill accepting sanitary waste which is located in the town of Lewiston. A number of municipalities in Niagara County deal with them and have their wastes handled there. Also, all of Monroe County and the city of Rochester also utilize that facility; and if Orleans County is not doing it today, they are seriously considering it, doing it through Monroe County's contract with Modern. That one facility is handling a number of large commercial and industrial business for their waste management.

All of the land where the Modern landfill is owned, not just what is currently operated, but what is owned by the property owner is a hydric soil. There is proposed Federal legislation for siting municipal solid waste landfills, municipal landfills being those accepting household waste, that would ban the siting of those landfills within wetlands as regulated by the Clean Water Act. Modern landfill would be a municipal landfill because they do accept household waste; but they also accept, as I said, commercial and industrial waste as well as special waste such as asbestos and oil spill debris. They also handle those kinds of wastes.

One problem in the exclusion of hydric soils for landfills is that the hydric soils are on the surface and the clay bases that create the hydric soil or the standing water on the top are a preferred criteria under State regulations for siting landfills. I feel that puts the Federal siting and the State siting in conflict with each other; and it also means that if you had to site a landfill in a nonhydric soil, you would then have to transport the clay materials to that landfill site, which then increases the cost of constructing that landfill. As the space for landfills decreases, the need is increasing—the supply and demand syndrome.

A lot of landfills are being restricted as to height. Their design criteria limits their size. Per acre, the cost of landfill disposal is going to go up, and up, and up, not just because of the wetland regulation, but that would be one of the reasons.

I know I was sitting back there thinking of all these things I wanted to say. I know I am going to have to write them down for you. Small businesses have come under some regulatory mandates for reporting hazardous waste under the small quantity generator regulations. If they fall under more restrictions or incur more costs because of just handling their lunch debris or whatever other debris is generated from their facility, it seems possible to me that out the back door or over the fence may become the alternative, and then what would be the effects on the environment caused by the runoff from those kinds of wastes that are not handled properly? I guess that would be about the extent of my comments right now.

Chairman **LaFalce**. Thank you very, very much.

Sir, I forgot your name.

Mr. **Patterson**. My name is Michael Patterson. I am a consulting engineer with McIntosh & McIntosh, PC, Lockport, New York.

Chairman **LaFalce**. All right.

TESTIMONY OF MICHAEL PATTERSON, CONSULTING ENGINEER, McINTOSH & McINTOSH, PC, LOCKPORT, NY

Mr. **Patterson**. Our firm provides land development services; and I, myself, am the design engineer actively involved in preparing the site designs for construction projects, residential subdivisions, and commercial sites. I have for several years been actively involved in the review process by the local agencies in obtaining State permits, the Corps of Engineer permits, the nationwide permits, for some projects. So, I am very familiar with the process or thought I was.

I think what has happened here, in my own opinion, and I will say it very frankly, I think the Federal Government has been incompetent in the way they have dealt with this whole thing; and I will give you four specific instances in which I think the behavior by the Federal Government is completely unjustified.

The first thing is coming down with a very, very important program without prior notice to the community at all. I do not believe anybody here knew about it until this summer. The only way you found out about it was by accident. Maybe you heard somebody talk about it or you heard about a guy who got stopped.

The way I learned about it was by going down to the Corps for a permit of the type I have obtained for many other projects, and the gentleman asked me—this was in May of this year—"Do you have any Federal wetlands involved?"

I said, "What Federal wetlands?" That is how I learned about it, in the process of going to the Corps to get a permit. There was nothing in the mail sent to the communities, to the engineering firms, to the realtors, to developers to put anybody on notice, "Folks, there is a new ball game being played. It is going to affect you very significantly. You had better start learning about it." They did nothing like that.

Second, the very definition of Federal wetlands that was given to us concerns me. We have areas out here that have to be delineated under the new laws, and these areas are bone dry by the end of May. Bone dry. But yet they fall under this categorization of a Federal wetland, and there is nobody in this room or any farmer who does not recognize the benefit of wetlands. What are wetlands? An area that is swampy or wet. That is what we think of, and we are not trying to develop in those areas. We are trying to develop in areas that are very, very well drained and dry, basically. Nobody wants to do it any other way. It is too much of a problem. But, yet, with the new guidelines, that is the kind of land we are asked to delineate. That is what those yellow areas on here are to a great extent. These are not areas that you walk on and you are going to sink up to your knees in mud. That is not the case at all.

Chairman LaFalce. I had a constituent call me up once and say, "I am having a problem. They want to define some property that I have on Pine Avenue in Niagara Falls as wetland."

I said, "Oh, you are crazy. Nobody could say that Pine Avenue in Niagara Falls is a wetland area." Well, yes they could.

Mr. Patterson. That is right.

Here is the third area, and this boggles my mind. It really does. How an organization with supposedly competent people in it could pass a piece of legislation regarding wetlands and say that there is no lower limit on the size which we will regulate. I specifically have asked Diane Radon at the Corps of Engineers, "If I have a 10-by 10-foot piece of land in my backyard, and it meets the Corps of Engineers definitions of regulating of a wetland, should I get a permit to fill it?" In theory, I should. Obviously, people are not going to do that. But you hear people talking about the need to get a permit to clean a drainage ditch. Presumably, if you want to put a driveway culvert into a piece of land across a drainage ditch, you need a permit from the Corps of Engineers to do this. There is no lower limit on the size of the wetlands which the Federal Government wants to regulate.

At least the New York DEC had enough common sense to put a lower limit on the size. I think it is 12.4 acres. There is nothing like that in the Federal legislation right now.

Chairman LaFalce. There is nothing in Federal legislation. That is one of the problems. It is all regulations, manuals, directives, operating procedures, et cetera; and you basically have section 404. The progeny of 404 has been administratively and regulatorily determined and judicially determined.

Mr. Patterson. The last item, again, is an example. This is a bureaucratic intrusion, and this again was done in an incompetent manner. We have a construction business here in Western New York. We have a process, we have a flow—this is something that goes along on a regular manner, and the Federal Government has inserted themselves into the process by virtue of these regulations. They have jumped into the middle of it, which would not be too bad if they had an adequate staff so the process could flow. But the staffing is not there. The process here had been developed over years working with the State. We had a smooth operation going. The State knew how to work with us. The Federal Government apparently gave no thought to that and just jumped right in, and they ground things to a halt. I have delineations down at the Corps of Engineers now on which people are trying their best, but it may be months before they get returned.

If I have a question, "How is my delineation coming?" I can call the Corps. The chances are that I will never get a phone call back, probably because the people down there are being deluged by phone calls by other people in the same situation I am. So, I think the Federal Government has operated very, very poorly in this. I do not understand it. I do not know how they could do it. They are supposedly intelligent people. We pay them good money. What is the problem?

Chairman LaFalce. I think there was a conflict, in all candor, between the Corps of Engineers and the EPA; and the EPA won out. I think, if you could talk with representatives from the Corps of Engineers off the record, they would sympathize with everything you have said, everything you have said.

Mr. **Patterson**. Yes, I have worked with the Corps. Just to elaborate on what you said the Corps said, it did protect wetlands; it protected streams using guidelines based on what I think was probably good common sense. What happened, the EPA and the U.S. Fish and Wildlife Service got into the act and said, "No more guidelines, guys. We are going to have set laws and set regulations to follow. There is no judgment, no choice involved. Follow the book."

Thank you.

Chairman **LaFalce**. Thank you very, very much.

We do have to bring the hearing to a conclusion now. This is not a town meeting. This is a congressional hearing. I just opened it up for people who raised their hands before for additional testimony. However, what I will do, I will keep the record open; and if any of you wish to submit a written statement to me, I will include your written statement in the hearing record. So, I will keep the record open if you wish to send me a letter; if you wish to send me testimony, I will include it in today's proceedings.

[Additional statements and letters may be found in the appendix.]

Chairman **LaFalce**. With that, I want to thank everyone for coming. I also want to assure you that I think this must be one of our highest priorities. I think the potential for economic devastation is almost limitless unless we come to grips with this problem. I do not think that the Congress should leave it to the regulators. I do not think that we should leave it to the administration. I think it is imperative that we come up with some remedial legislation and not simply some minor changes in section 404 which has nothing to do, had nothing to do originally with the whole concept of wetlands. We ought to come up with some legislative policy specifically with regard to wetlands.

Although my committee does not have legislative jurisdiction over that, I do intend to work with the committee of jurisdiction, the Public Works Committee, in that endeavor and with all other interested colleagues. Next Wednesday, I am having a meeting of the Small Business Committee, and I am opening it up first and foremost to other Members of Congress to testify about their experiences in their districts. I think we are going to have a great many Members of Congress testify; and, in this way, I hope to build some type of enthusiasm within the Congress for some remediation.

In the meantime, though, it takes time to get legislation passed; and sometimes it takes a day, sometimes it takes a year, sometimes 2 years, sometimes 10 years; and we cannot continue in this fashion until there is some legislation remedying the situation. That is why I have called and continue to call for some type of moratorium on this new policy that has been articulated locally, basically since July 1990. We have to have a moratorium on the implementation of the new policy both on a Federal and a State basis, it seems to me, until we can come up with some coherent way of dealing with the situation nationally, regionally, State, and locally.

Ms. **Scavy**. How can we assist you?

Chairman **LaFalce**. And you, ma'am, are?

Ms. **Scavy**. Jill Scavy, 595 Lake Road, Youngstown, New York. How can we assist you?

Chairman **LaFalce**. Well, I think that since I am your Representative, I think just a letter to me giving your experiences and impressions would be very good. But I would also suggest the two U.S. Senators should be contacted, Senators D'Amato and Moynihan; and also I would write to the EPA and the Corps of Engineers. I would write to the President, himself.

In all candor, as late as October of this year, my office had only received two phone calls on this entire subject as of October. I remember that I was in Washington, DC, when the New York State hearing was to take place here in Lockport. The hearing had to be called off, and John Spagnoli of the State Department of Environmental Conservation had to be escorted out under armed guard. I said, "This is a hot spot." I went to my staff again, and I said, "This is so hot. How many calls have we received on this?" I went to all my offices, et cetera, and they said, "Two."

Well, I knew that it was going to be a major, major problem. I think everyone up until that time was putting most of their focus on the State because it was thought to be a State problem. The State Department of Environmental Conservation did come out with their own new regulations and implementations and interpretations, et cetera. But it is a problem at both levels of government, and we need to work with both the Federal and State governments on this. We need to work with both.

Mr. **Brody**. Congressman, are you specifically going to call for a moratorium on this processing of these applications?

Chairman **LaFalce**. Absolutely. Absolutely. That is not going to get us the moratorium, but I believe it is imperative. A reversion to the status that existed prior to the new manual and new implementation.

Yes.

A **Voice From Audience**. I just want to substantiate what Congressman LaFalce said. One of those two phone calls was mine. I talked to Susan a little bit, and I was flabbergasted that there was nothing coming in. I could not believe it.

Chairman **LaFalce**. She told you that at the time?

A **Voice From Audience**. Yes; I could not believe it. But that is what she said. I thought all the supervisors, all the reps, everybody, you would be bombarded with phone calls.

Chairman **LaFalce**. Well, that has not been true since 12-31, I assure you. I am not suggesting that it is necessary to motivate me further with any more phone calls or letters.

Mr. **Brody**. This may or may not be the real truth, but one of the perceptions that we have had is that the reason you did not get so many calls and letters early on was because the Corps is located in Erie County, and they hit what they could see first. They started off with Erie County, with some of the bigger towns of Amherst and Clarence, and so forth; and then, only after they had made their impact there, they started to look a little farther north and say, "Oh, what do we have here?"

Chairman **LaFalce**. I do not think that is quite the reason because I represent Erie County, also, and I do not think that anybody in the world should think that Erie County at anytime comes before Niagara County.

[Laughter.]

Chairman **LaFalce**. With that, let the hearing adjourn.

[Whereupon, at 1:00 p.m., the committee was adjourned, subject to the call of the chair.]

EFFECTS OF WETLANDS PROTECTION REGULATIONS ON SMALL BUSINESS

WEDNESDAY, JANUARY 30, 1991

House of Representatives,
Committee on Small Business,
Washington, DC.

The committee met, pursuant to notice, at 9:00 a.m., in room 2359-A, Rayburn House Office Building, Hon. John J. LaFalce (chairman of the committee) presiding.

Chairman LaFalce. The Small Business Committee will come to order.

This marks the first Washington hearing of the Small Business Committee in the 102d Congress, and I want to welcome all the Members who are here in attendance, old and new; and I want to explain to them, as I did explain in a letter to them, that we are delaying the organizational meeting of the Small Business Committee until such time as the major committees have met.

Until the major committees meet, we don't know who the subcommittee chairmen and ranking minority members will be in those committees, for example, Energy and Commerce, Judiciary, Armed Services, et cetera. Until that point in time, it becomes difficult for us to organize in subcommittees and select subcommittee chairmen and ranking minority members.

But we will attempt to organize the day after the last major committee has met. Unfortunately, some of them have continued to delay their organizational meetings because of their own internal difficulties.

That being the case, I think that the hearing we have today is an especially important one. It is to discuss Federal wetland regulations and, in particular, the problem which the regulatory process poses for small businesses in this country.

It has become rather apparent to me that, both locally and nationally, this has become of great, great concern—locally in my congressional district, and nationally, after I have talked to so many of you, I recognize that this is a great national problem.

Section 404 of the Clean Water Act is the predominant Federal program for the regulation of wetlands. When the Clean Water Act was originally signed into law, this section provided the means for regulating discharges of dredged and fill material that could potentially affect the quality of the Nation's waters.

Section 404 also established a permit program, to be administered by the U.S. Army Corps of Engineers, that would ensure that such discharges comply with environmental requirements. Nowhere in this original section was the term "wetland" mentioned, let alone defined; and few, if any, conceived at the time of enactment that the "discharge of dredged and fill material into waters of the United States" would evolve into the monstrosity of wetlands protection regulations that we are faced with today. It was through the course of litigation and various rule changes that the fundamental purpose of this section was lost to a limited scope of wetland protection.

There is no question that true wetlands are important and should be preserved. Wetlands are important public resources that temper floods, protect water quality, and sustain the food chains upon which our recreational and sport fisheries are based. They serve as nesting and rearing areas for waterfowl and wildlife and are the last strongholds for many threatened endangered species.

These high-quality resources need to be regulated and protected. However, this level of protection does not have to be extended mechanically to marginal wet areas that may have no important functions and values, and certainly not to dry areas that simply fall within the artificial parameters of some Federal wetlands delineation manual.

In my District alone, there are towns and municipalities that, as a result of overreaching Federal regulations, have upward of 65 percent of their land subject to the Army Corps of Engineers' permitting process. The 6- to 8-month average delay in the granting of Corps permits, coupled with the 4-month winter dormancy period in the Western New York area, has had a devastating impact on economic development.

The small business community, particularly those involved in the real estate, home-building, construction, and related industries have been especially hard hit.

To make matters worse, the Corps' district staffs are so overloaded with permit applications that they are incapable of performing wetland delineations. Rather than waiting for the Corps to schedule field delineations, the development community is turning to consultants to perform this task.

Many of these consultants have little or no training and are easily overwhelmed by the complex technical procedures contained in the Federal delineation manual. They often charge high fees for field delineations which are of such poor quality that they are rejected by the Corps and have to be done over. The developer, or the farmer, or homeowner, as the case may be, usually has to pay the consultant to do the job over a second and even third time.

The Federal delineation manual, I believe, is a source of many of the problems which we face with regard to current wetlands policy and, therefore, deserves closer scrutiny.

Prior to 1989, each Corps district delineated wetlands on the basis of local procedures that took local environmental features and anomalies into account. In March 1989, the Federal Manual for Identifying and Delineating Federal Jurisdictional Wetlands was adopted.

[The manual is reprinted in the appendix.]

Chairman **LaFalce**. This manual was jointly developed by the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife

Service, the U.S. Department of Agriculture's Soil Conservation Service, and the U.S. Army Corps of Engineers.

Use of the manual was mandated by a Memorandum of Agreement on Jurisdiction which was signed by EPA and the Department of the Army. It has been asserted that the promulgation of the manual constituted minor technical changes in policy and, therefore, was implemented without going through the rulemaking procedures set forth in the Administrative Procedures Act. That was the allegation.

In reality, the manual substantially increased the wetland jurisdictional responsibilities of most Corps district offices. Even though the manual broadened the wetlands jurisdictional responsibilities of the Corps, it did so without any grandfathering provisions. This created a substantial dilemma for developers who now had no time to make the transition from one level of regulation to another.

There are a number of examples where contractors, operating under prior procedures, had secured all local and State permits for housing projects, and obtained financing, only then to discover that they could not proceed because wetland indicators were present and Corps permits were required.

The Federal delineation manual lacks both flexibility and practicality. Had the public been offered an opportunity to provide input, which is customary in the rulemaking process, it is my belief that such features would have been built in.

Another policy change occurring on the heels of the Federal manual was the establishment of the Memorandum of Agreement on Mitigation. This document was developed jointly by EPA and the Corps of Engineers. It establishes a sequential process for review of projects under the 404(b)(1) guidelines.

Each project is first evaluated in terms of the applicant's ability to avoid wetlands. If the project is housing, for example, which does not have to be situated in a wetland to achieve its basic purpose, it will be nearly impossible to demonstrate that there are no less environmentally damaging alternatives.

Assuming avoidance is achieved, the project then has to be evaluated in terms of the ability of the developer to minimize adverse impacts. If this hurdle is overcome, there remains the requirement of mitigation for the unavoidable, adverse, project-related impacts.

This may be very difficult to achieve because the only way to compensate for a wetland loss is through replacement in kind. Artificial wetland creation is generally an unacceptable alternative, although reconversion of agricultural lands to wetlands is a viable option. Failure at any given step in the avoidance-minimization-mitigation sequence can result in denial of the Corps permit request.

One problem with the Memorandum of Agreement on Mitigation is that it fails to take the quality of the resource into consideration. Once an area is deemed to be a wetland, it is subjected to the mitigation procedural steps without any consideration of its inherent functions and values. There are cases where marginal wetlands with no discernible functions and values of importance to the general public should be excepted from the provisions of the mitigation agreement.

As was the case with the Federal delineation manual, the Memorandum of Agreement on Mitigation was not developed as a result of any formal rulemaking process. If it had been, perhaps there would have been provisions for dealing with wetland resources of low quality.

The public has recognized the need to reevaluate these Federal wetland protection policies. At least one lawsuit has been filed challenging the validity of establishing the Federal delineation manual without formal rulemaking.

I am also in agreement with the need to reevaluate these wetland regulations, and I will reiterate the position I took at the January 22d field hearing I conducted in Lockport, New York on this matter. It is my belief that a moratorium on the post-March 1989 Federal wetland regulatory regime is in order. I call upon those Federal agencies testifying before the committee today to initiate such a moratorium so that balance and fairness can once again prevail.

As important as the preservation of our wetlands is, it is also important that we achieve President Bush's goal of "no net loss" of wetlands by efficient and rational regulatory means. A moratorium would give us the necessary time to adequately evaluate and implement the following recommendations:

One, the Federal Manual for Identifying and Delineating Federal Jurisdictional Wetlands must be put through a formal rulemaking process. The manual has been in use since March 20, 1989, and there is now sufficient field experience in the public sector to make meaningful changes that are practical and reasonable.

Two, establish reasonable grandfathering provisions that will allow the regulated public to make an orderly transition.

Three, modify the Memorandum on Mitigation to allow consideration of wetland resource quality. This can be accomplished through formal rulemaking or other means.

Four, define the concept of "no net loss" of wetland functions and values.

Five, establish mandatory training and certification programs for private consultants who perform wetland delineations.

Six, consider establishing a comprehensive wetlands permit program that controls all activities adversely affecting wetlands rather than continuing to use the section 404 program for this purpose. Section 404 is not appropriate for the purpose for which it is being used today.

Seven, consider new Federal legislation being developed by many of my colleagues and myself, similar to last year's H.R. 5968 which would, among other things, define geographic areas and types of activities subject to the new regulatory program, categorize wetlands according to their ecological significance, and place increased administrative responsibility with the U.S. Army Corps of Engineers.

Because Federal wetland regulations have had a significant impact on virtually every State in this Nation, I have invited a number of my colleagues to testify before the Small Business Committee today so that they would have the opportunity to provide anecdotal information, make their recommendations, and illustrate just how widespread this problem is. Regardless of geographical location, small businesses are being overburdened and development hampered as a result of costs and delays associated with the wetland regulatory process.

[Chairman LaFalce's statement may be found in the appendix.]

Chairman **LaFalce**. Before we get to the first panel, and to the second panel, which will consist of representatives from the Corps, the EPA, and the Department of Agriculture, I would like to insert in the record the opening statement of the Honorable Silvio Conte, without objection; and I wonder if any other members of the committee have an opening statement?

[Mr. Conte's statement may be found in the appendix.]

Chairman **LaFalce**. Mr. Sisisky.

Mr. **Sisisky**. I would ask unanimous consent my statement be included in the record.

I just want to say one thing. Of all the things I have ever had a problem with in the Congress, this seems to me the most prevalent. I think we need to clear the air here that those of us who think we need changes in wetland regulations do not mean that we don't want to protect the wetlands.

I am a member of the Congressional Sunbelt Caucus Wetlands Task Force who thinks it is very important to preserve such ecologically valuable areas. I apologize to my colleagues that I will not be here to listen to their testimony because of another meeting, but I will look forward to reading the testimony.

[Mr. Sisisky's statement may be found in the appendix.]

Chairman **LaFalce**. Mr. Olin.

Mr. **Olin**. Thank you, Mr. Chairman.

I would like to make a short statement. My interest in this subject stems from being on the Agriculture Committee. As you know, with regard to land conservation programs, in Agriculture one of the issues that has been dealt with is wetlands.

In the 1990 farm bill, we made an attempt to improve the definition of the wetlands and, also, the legislation that relates to how you administer wetlands in a fair manner so it doesn't ruin the economy of our country and hamper our cities in the process.

We really are basically trying to take the uncertainty out of that subject, so people know where they stand, and I think it is very appropriate that the chairman have this series of hearings on this subject.

I don't think we have totally solved the problem yet, by a long shot. We will be considering the Clean Water Act in Congress this year. It is very appropriate that we become aware of how the practicalities of this situation are working out so we can have something the small business community can live with, and also have something that will help us preserve the very necessary and proper wetlands we have.

I commend you, Mr. Chairman.

Chairman **LaFalce**. Mrs. Meyers.

Mrs. **Meyers**. Mr. Chairman, I have a statement I would like to submit for the record. I am a strong supporter of protection for wetlands, which are so important for the perpetuation of wildlife and flood control, reduction of erosion, and filtration of water supplies, but I am also very sympathetic for the need for clarity in the regulations governing definition and use of these lands. I look forward to the hearings.

Thank you.

[Mrs. Meyers' statement may be found in the appendix.]

Chairman LaFalce. Mr. Hefley.

Mr. Hefley. Mr. Chairman, I don't have a prepared statement, but let me say I appreciate so much you having this hearing. I think this is a perfect example of a great idea running amok. We all recognize that for too long, we did not pay attention to the value of wetlands in the ecological system of our land.

It is important that we do pay attention to that now, and I think all of us would be supportive of a reasonable approach to wetland preservation. I know from the high desert country that I come from that the implementation of it borders on the ridiculous, and I think it is Congress' responsibility to look at this and bring some rational, reasonable approach to wetland preservation.

Maybe this hearing will be the impetus we need to do that, and I want to commend the chairman for having this hearing.

Chairman LaFalce. I want to call now on one of the newest members of the Small Business Committee, Congressman Andrews of New Jersey, with whom I first became acquainted when I read a law review he wrote on environmental issues.

Mr. Andrews of New Jersey. Thank you very much.

I want to thank you for calling us together for a point of consensus, and I hope a point of debate. A point of consensus, I think very strongly felt, is there is no debate about the value of wetland preservation, the matter of water quality, and the matter of ecological balance.

I would hope that we would use these hearings that you have so sensibly proposed to look at two other propositions, general propositions that I would put forward.

The first is that you can't have environmental protection without economic growth to pay for it; and in the system, as it is presently structured, at least in my State, in New Jersey, we are seeing a situation where the tax revenues needed to pay for diligent programs of environmental protection are shrinking and decreasing because the economic activity needed to create those revenues is diminishing, in part because of this kind of confusion.

Second, I would hope that we could use these hearings as a forum to examine the difference between environmental protection and the creation of bureaucracies which use the word environment in their name.

The confusion which the chairman has pointed out in his remarks has been seen many, many times and is seen today in my District. I would hope that we would address the question of the difference between environmental bureaucracies and environmental protection, and look at ways we could make complementary the growth of wetlands protection.

I would ask unanimous consent to insert additional material for the record.

Chairman LaFalce. No objection.

[The additional material may be found in the appendix.]

Chairman LaFalce. Let me ask unanimous consent to insert the opening statement of the ranking member, Mr. McDade.

[Mr. McDade's statement may be found in the appendix.]

Chairman LaFalce. Mr. Slaughter.

Mr. Slaughter. Mr. Chairman, I would like to commend you for your leadership in convening these hearings. I think we all agree that the preservation of wetlands is an important goal, but our laws and regulations have to be reasonable.

Clearly, our wetlands protection laws and regulations are having a significant impact on our Nation's small businesses. Again, Mr. Chairman, I thank you for your attention to this subject, and I look forward to working toward the resolution of this important matter.

Chairman LaFalce. Any other members? Mr. Lancaster.

Mr. Lancaster. Mr. Chairman, thank you for calling these hearings. I, like Mr. Olin, served on the House Agriculture Committee last year as we prepared the 1990 farm bill. The statutory changes we made with regards to farm lands and wetlands, I think, are a very reasonable approach and one that could be emulated in other areas of wetland policy.

I believe that the attention you will bring to this issue will, in fact, give strength to those of us who believe that reasonable changes in wetland policy can, in fact, protect the environment, but also recognize that the existing regulations and their implementation are unreasonable and are, in fact, hurting the wetlands policy, rather than helping.

I do look forward to hearing the testimony this morning. I, like Mr. Sisisky, must leave for an Armed Services Committee meeting momentarily, but I will be back before the session is over.

Chairman LaFalce. Thank you very much.

Mr. Camp of Michigan.

Mr. Camp. Thank you, Mr. Chairman. I ask unanimous consent to insert a brief statement in the record, and wanted to say, I am pleased to be here as a new member of the Small Business Committee. I look forward to working with all members of the committee.

The hearings we are going to be having affect my largely rural agricultural district a great deal. I think it is important, while we work toward a solution that addresses the concerns of the small business industry, we not forget our environmental priorities as well.

Chairman LaFalce. Thank you.

[Mr. Camp's statement may be found in the appendix.]

Chairman LaFalce. Mr. Bilbray.

Mr. Bilbray. Mr. Chairman, I have a statement. I do support these hearings. I think it is very important that we recognize that wetland protection is certainly not incompatible with the aims of small business.

I think these hearings are very important. I come from a State that doesn't have a lot of wetlands.

Chairman LaFalce. You might be surprised.

Mr. Bilbray. We certainly support the idea of wetlands, and I would submit my entire statement for the record.

Chairman LaFalce. Thank you.

[Mr. Bilbray's statement may be found in the appendix.]

Chairman LaFalce. Mr. Hancock.

Mr. Hancock. Just a word of caution. As you know, we are looking here at the Clean Water Act, and we are finding that there are a lot of people who didn't realize they had a wetland problem; and then, all of a sudden, by definition, their land was determined to be wetland.

We just passed a bill here recently——

Chairman **LaFalce**. I was surprised when I discovered one of the main business districts in one of my major cities was in a wetland area.

Mr. **Hancock**. One of the cautions that I would like to urge concerns a bill which we just recently, here, this last session, passed, called the Clean Air Act. I don't think anybody questions there is air every place, but I would just like to suggest that as this Clean Air Act is implemented, we take a real good look. We are having quite a lot of impact in my district in problems having to do with how do people comply with the Clean Air Act.

The small business community is going to be very seriously impacted as a result of the Clean Air Act. If it is possible, let's get on it before the fact, instead of after the fact.

Chairman **LaFalce**. Thank you very much. We will do what we can.

Do any other members have an opening statement? Great. At least the number of the members who did wish to make a statement is indicative of the tremendous concern throughout the country. I think you will hear from other members who have been working on this for at least the past year.

I also wanted to say, as is true in most issues which the committee has taken up, we do not have legislative jurisdiction on this, but it does impact the small business community tremendously. Legislative jurisdiction would rest with many other committees: Public Works, Agriculture, Merchant Marine, et cetera; but, as we have done in the past, we have attempted to use this committee as an ombudsman for the small business community; and we will continue that in this Congress; and this is going to be one of the principal issues.

With that, we have some of the leaders of this effort to bring reason to our approach. The first witness we have is Congressman Jimmy Hayes.

STATEMENT OF HON. JAMES A. HAYES, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF LOUISIANA

Mr. **Hayes**. Thank you very much, Mr. Chairman.

Rather than going through the statement, having heard a lot of the testimony—I benefited from that—I would like permission to put my statement, and also that of Bob Livingston of Louisiana, who has sent over a statement for review.

Chairman **LaFalce**. So ordered.

[Mr. Hayes' and Mr. Livingston's statements may be found in the appendix.]

Mr. **Hayes**. What I wanted to do was not dwell upon the legislative initiatives that are going to come immediately, but to talk about small business jurisdiction and what I fear to be the impact of doing nothing to change current law.

If the President of the United States last night, in the State of the Union, had stood up and said, "I propose a national land use policy by which we will determine what owners can and cannot do with their property," every newspaper in America this morning would have had front-page headlines demanding an explanation and complete review of what he was talking about.

If the Speaker of the House said, "The President didn't say one thing about our national land use policy, which is the Democrat initiative, a national land use policy," he equally would have gotten the same kind of incredible criticism and demand for explanation.

Over the course of the last 20 years, we have not by public policy, not by debate in the Congress, not by executive initiative, but by interpretation of a water bill, developed a national land use policy.

I think that is an inappropriate forum, and your having this hearing is the beginnings of putting the right focus on the right issues, and allowing public opinion to express itself, and to allow the Congress to do its job of formulating public policy.

As that relates to small business, let me tell you what some of my fears are about doing nothing. My State, for example, has 90 percent of its ground now classified under the manual as wetlands. That is horrifying in terms of what people can and cannot do with their land, but let me make it clear in real examples.

I have a gentleman in my district who, because of economic reversals in the oil and gas business, had to sell a tract of land. Finding out selling the tract of land was impossible because of its classification as wetlands, there was no one who wanted to farm it, no one who is willing to construct on it, no one who wanted to do a subdivision, even though it bordered two subdivisions.

He was forced to cut down every cypress tree on it, to destroy 200 years of forests. This cannot be in the name of environmental protection or quality of life. If you once again compound his single problem to that across my State and across the Nation, what I am concerned about is every landowner and every business owner. Recently, in Pennsylvania, a piece of property classified as wetlands was, after a court case, reduced on their tax rolls from $1,000 to $1. The real impact of that is that the cost of public services that have to be performed is now shifted to those whose properties are not classified as wetlands.

Then when you hit a State like mine, it means 10 percent of the property owners, who are going to be small business owners, are going to pay 95 percent of the property tax burden. That cannot be a realistic and intended consequence.

If I have any worry about losing my congressional seat, it is through erosion. If I have any other reason to worry about losing, it is through the thousands of irate landowners who find out they can't do anything.

Chairman LAFALCE. When we were in Washington, 2 weeks before the election, there was a meeting in my district to discuss wetlands; 1,200 people showed up.

Mr. HAYES. The second point is the cost of permitting. It now has become so expensive for any landowner to determine what they can and cannot do, that those who do not have more than moderate means are not in an economic position to do it.

For those who are able to afford it, the time lag is so great. I represent an area that has one company, a major landowner, that has had a 404 permit pending forever, since what would be my sophomore year at the University of Southwestern Louisiana. That is wild.

Whether the answer is yes, no, indifferent, it has to be structured in a way that response comes. This debate is not like a television series, where the big land developer wants to take the beautiful property and put up an office building and destroy the lakes and ponds.

This debate is whether or not the use of one's own property will be decided by the evolution in a section of law made 18 years ago, and not intended to make policy; or whether the Congress will have the debates, but to understand the environmental issues all of us support, and conclude with a rational legislative approach.

I commend you for helping to initiate that discussion, and I won't take any more of your time. I will turn you over to someone who is truly a technical expert.

Chairman LaFalce. Before either of you leave——

Mr. Hayes. I don't answer questions.

Chairman LaFalce. I do want one of you, since you worked so hard on the bill which was introduced last year, to briefly outline the bill introduced last year and which is being considered for introduction very shortly this year. Do you want to wait on that?

Mr. Hayes. I would do that very quickly.

First of all, I don't want to take Lindsay's time. Second, we are continuing to have meetings. I filed the bill on the last day of last year, because I wanted it to go to every interested community for comment.

I want to thank those who have responded. We received a detailed response from the National Wildlife Federation, which was very useful in pointing out some language with unintended consequences. The wetlands coalition of large landowners across the Nation, city councils, the city of Los Angeles, and testimony all the way from people in Eugene, Oregon, has been very, very useful.

The structure will be similar to last year, but I hope improved by the information we have received. The real guts of the bill is that we are talking about a classification system in which not all wetlands are the same.

The Atchafalaya Basin in my State, and the airport in Monroe, Louisiana, in the northeast corner of my State, are not the same kinds of wetlands. Consequently, the policy that should apply cannot be standardized.

The second is a land use remuneration. If we are taking people's properties and expropriating them, we ought to discuss some inventive means to pay for it, whether that is direct compensation, whether it is a tax credit, or whether it is a benefit.

If the Government is taking, in every other instance in which that occurs, in every other policy we have when we talk about putting properties into resource, we have a compensation. Here we are taking and paying nothing. We are destroying some people economically.

Chairman LaFalce. There is a lawsuit pending right now, testing whether there is a requirement for just compensation, even absent any legislation under the constitutional eminent domain.

Mr. Hayes. There will be some. It is important we address that legislatively, because the Federal Government cannot afford the bill if there are huge judgments across the country. I get to explain that to people at home who are really angry about the other wetland issues.

I don't want to go through the next couple of years and explain what we do legislatively. We are not even stoned in saying it is our way or nobody's way. I think we benefited from comments. After we have benefited from the Sunbelt Caucus and a group of people who have lent staff to put together improvements, I think we have a bill with a very broad base of support, and have a number of cosponsors, even Congressman Baker, who usually doesn't read anything, has joined us.

Chairman LaFalce. He will get his time. We better go on to other members.

Mr. Baker. I did have a question.

Mr. Hayes. I am sorry, I have to leave. I have to go to Armed Services, even though I am not a member.

Mr. Baker. I don't know who read it to you, but you certainly understand it better now than you did last year.

With deep regard for the gentleman's efforts, because he has been one of those most interested in seeing this problem addressed, my question really relates to some of the points you mentioned earlier with regard to regulatory reform.

In the instance of an individual who, with blessings of local regulatory authorities, put some fill in his front yard because he was going to build some rose beds, he was later served notice he was going to be sued if he put more dirt, because it was determined to be wetlands.

What I am concerned about is the undue delays you have cited. Do we address that issue, and is there a window that could be fair-minded that would allow for someone to proceed if they do not get a negative response without further reliability?

My concern is if business is to conduct its activities, you can't make investment if later you are not only going to be required to take the investment back, but be penalized as well.

Is there anything we can do about that?

Mr. Hayes. First, we don't allow unfettered use in total avoidance of environmental concerns. But what we do is put timetables on response, which I think is very important, and which I believe, in the final version, to be very reasonable periods of time in which to respond.

Second, we have different requirements of different classifications of land. In other words, A, B, and C do not have the same type of landowner, as with the rose bed, subject to the same conditions as someone in class C, which would be Monroe, Louisiana lengthening its air strip.

I think putting a reasonable time in which to respond. One of the problems that currently exists—I brought a group to southwest Louisiana, in Lake Arthur. I invited everyone who has something to do with a professional process for someone who wants to put something in their yard, and I ended up with 14 chairs. With all due respect to each and every one who does a fine job, that is impossible.

I believe we have to also have a debate on which lead agency does, in fact, take the lead; and we have to streamline and subordinate roles so that people are able as citizens to say, "I want to do this, I want to go to the right place, but that doesn't mean 50 trips to a dozen different offices." That is not a fair requirement to be made of someone who is trying to comply and who wants to conform to the public policy restrictions and constraints in their land use.

I think we can do a lot better than we have done.

Chairman LaFalce. Now, I think we will hear from the brothers Thomas. Congressman Thomas of Georgia. Lindsay.

STATEMENT OF HON. LINDSAY THOMAS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF GEORGIA

Mr. Thomas of Georgia. Mr. Chairman, your opening statement, I thought, was one of the most succinct statements. I think it encompassed about every concern I have. I am going to kind of stray away from my printed material, and, if I might, I would like to submit this for the record, and make some comments, and then perhaps take some questions from the panel.

[Mr. Thomas' (of Georgia) statement may be found in the appendix.]

Mr. Thomas of Georgia. I have, in the course of the last year, chaired what we call the Wetlands Task Force on the Sunbelt Caucus, and have a long and abiding interest in this issue of wetlands, but I don't come here this morning to speak to you from that perspective.

I would rather visit with you as to the situation we are having in small business in our area. I would like to characterize what I began to experience, and it points to your statement.

Last year, in February, I was called by a friend to come down and look at a piece of property that he had been told was now going to be jurisdictional wetlands. This piece of property is right adjacent to Fort Stewart, where the 24th Army Infantry Division is trained, one of the largest training installations east of the Mississippi, 325,000 acres.

We stood at the gate. The land from one end to the other was the same going out of the base, where the entire base had been built into the area being looked at as a possible site for development of section 8 housing.

When I was shown this piece of property, and was told that not only that military base in its entirety, but the whole development in my part of the country, the lower southeast plains of Georgia, had been built on the same kind of land, and I looked at this piece of land which was no different, I realized we were in the soup.

We had fortunately, prior to that, written a letter that is in the record, asking that the Memorandum of Agreement not be implemented, but this fell on deaf ears.

I have friends behind me who were involved in this manual, and I don't come here today to make personal statements. They will have their opportunity to defend it. But anyone in this country who doesn't think this manual didn't dramatically change the picture and whole purpose and intent, in my opinion, of this legislation is not looking at the facts.

There has been a year of hearings held after the manual was implemented. Those hearings should have been held prior to the implementation of the manual. You made a very succinct point when you stated it, probably much of the problem could be corrected if the manual was looked at itself.

We made some strong statements asking for its review I can't tell you what is going to come from that, but certainly a year of testimony that brought hearings around the country of the nature I have never experienced, and many of my staff members who have been there 18 years, 10 years with the prior Congressman, said they never experienced this kind of problem, this kind of incredible expansion of Federal jurisdiction onto lands.

Certainly, they can see the problem. I can cite you many things—I don't want to get into a technical nature—I will say I am not scientifically trained. When I go in the manual and see Leesburg soil, with a horizon seven to eight inches deep, classed as a wetland soil, and bladen soil that has a horizon three inches from the top of the surface classified as an upland soil, I know there are blatant errors in the manual.

When I look at the lower part of the country, in the South, when the jet stream comes part of the year and delivers our rain, most all of our land is saturated with our water. In warm seasons like this, the use of the description, what is saturation period and what is growing season, comes under great question. That entire part of the country can stand under water. This is not considered in the manual.

When I see the plant list that is in the manual, and I can go and show you replete examples of numerous types of these plants that are on the list of wetland plants growing from the highest, sandiest hills in my part of the country, then I can tell you, obviously, there are problems here.

I want to make it clear, though, that what I am about is not to try to go back and reverse the country's direction in trying to recognize once and for all the value of our wetlands properties and trying to protect them. But in my opinion, the manual is going to create an atmosphere in which we lose the support we have built up over a long period of time to finally try to come to grips with the value economically and environmentally.

Of course, they have been reduced at a very rapid rate. I have not had talks with Jacques Cousteau, but with his son, who testified that the marsh lands in Georgia are perhaps some of the most valuable environmental properties on the face of the planet

We are not talking about riverine systems and deep swamps of Louisiana, the true wetlands identified when the 1977 Act was passed: swamps, bogs, and marshes. We are not talking about trying to do anything in changing this country's interest in preserving and stewarding these properties. We are talking about how, all of a sudden, without proper review and without Congressional input, we have expanded that jurisdiction out of those properties and into uplands and into lands which are sometimes wet, but are in no way wetlands, that the Congress now sees as being identified.

I have to tell you, I personally question the validity in expanding the jurisdiction that this wetlands manual has done. First and foremost—I hope this falls on ears listening behind me—there needs to be an honest review of that manual with the input that has been received carefully over the course of the year.

I think much of this, and perhaps this is why Jimmy was a little bit reluctant to go into details about our bill, but certainly that bill or any legislation passed should take into consideration any of the revisions that should be made, in my opinion.

Part of the reason we are gathered here today is the manual itself, and much can be changed in the context of those wordings, in my opinion, sir.

Mr. Chairman, I have tried to touch on a few things. One last thing, in conclusion. If this country is going to say—and I think this is right—our true valuable functioning wetlands are so valuable to the public at large that we should have certain say-so over them and we are going to place restrictions on them, then I think those who own and steward wetland resources have a right that the public must come forward and help in the stewarding of those lands.

I think there can be tax incentives at the Federal level and property tax relief at the State level that can serve as incentives. We have accomplished some of that.

The other point I would make is that we are missing the boat here. In the case of small business, which is a major strata in my district and Georgia, they are absolutely being hamstrung. To give you one example, a developer from Atlanta calls a realtor in Savannah and says, "I was looking for a $25 million piece of property, but hold off on that until the wetlands issue is settled."

Nothing is selling. Nothing is moving until we find out what is going to happen. What we have is the ability here to structure some proper mitigation banking legislation, and give some flexibility—and you used the term a while ago in your statement—in recreating wetlands. There are many systems depleted in their functional values by the draining of water. These can be changed and put back into linear functioning wetland systems that are more valuable than the small, isolated wetlands that might need to be compromised for a good and environmentally sound reason.

We are missing the boat when we try to demand onsite mitigation that is extremely expensive, that can run from $5,000 to $50,000 an acre, and doesn't serve much purpose when we are losing the opportunity to enhance many of the wetlands that can serve as a valuable service to us.

It is going to take not one, but maybe several pieces of legislation to get us on the right track. Much can be done in the revision of this manual.

Chairman LAFALCE. Thank you very, very much.

Unless there are compelling questions, I would like to thank Mr. Thomas for his testimony and allow us to go on to hear the other Members of Congress who are present.

Mr. THOMAS OF GEORGIA. Thank you, Mr. Chairman.

Chairman **LaFalce**. The Honorable Craig Thomas, and I see Congressmen Pease and Clinger in the audience. They can come on up to the table.

STATEMENT OF HON. CRAIG THOMAS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WYOMING

Mr. **Thomas of Wyoming**. Thank you, Mr. Chairman. I will be brief.

I appreciate you holding this hearing, and I think it is interesting that the two gentlemen from Louisiana and Georgia, and now from Wyoming, with quite a different set of circumstances, are yet equally concerned about the problems that you raise here today.

Certainly all of us, as has been said, favor the protection of the wildlife and wetlands habitat. Realistically, if you are going to protect them, you are going to have some regulations.

It is easy to say, "Well, we are going to protect them, but we are going to make it very easy." I think there is some realism here that if you are going to set it aside, there are going to be some conflicts.

We can make it better, however; and I think most of us, and most people in my State, believe that the Federal Government has not established a definition that is adequate.

I think the jurisdictional problem is one that bothers us a great deal, specifically between the Corps of Engineers and the EPA, as well as some other agencies, and the way that is administered.

Let me just comment very briefly on one issue that has to do with small business. There is more interest, I think, from the agricultural standpoint than there is in this instance, the construction of homes; but the agricultural people are even more concerned.

Our legislature——

Chairman **LaFalce**. Agricultural business is concerned, too.

Mr. **Thomas of Wyoming**. Yes, indeed they are. The legislature passed a bill just this week to set up a State inventory, because they are dissatisfied with the administration of the Federal program. The State is seeking to do something for themselves in this area, which I think is indicative.

In this case in Jackson, Wyoming, which many of you are familiar with, Rafter J. Partners, a development company there, had set aside and received approval for 145 acres for a subdivision; and all the agencies that you can imagine were involved, and approval was given.

In 1990, a 6-acre portion of Rafter J. known as Walden Pond was developed.

After the required tests, the developers were informed by the county planner that it was unnecessary to get the Army Corps of Engineers involved. They went forward with the construction of the houses.

Later in the year, it was inspected by the Corps of Engineers. The Corps of Engineers' representative concluded Walden Pond was not a naturally occurring wetland, but indeed was kept wet by seepage from a nearby irrigation meadow and the return flows from an irrigation ditch.

Now they have gone into some review by the EPA. The houses are completed; they are sold; they are standing empty; and in the second year, nothing has happened because of basically, I think, a jurisdictional problem.

Really, that is unnecessary. We ought not as citizens have to put up with that kind of thing. I wanted to give you that detail to tell you that we, too, have a similar problem.

I think basically we need regulations that are understandable. We need regulations that are simple. We need agencies that are accountable, and where the rules are uniformly applied by all of the particular agencies that are involved.

I think there is just no excuse for territorial problems within agencies which then cause problems for citizens in this country.

So, those are the issues, Mr. Chairman, that I think are of particular concern. I simply want to tell you that not only the States that you would think customarily have problems with wetlands are involved, but also the high plains, dry States as well.

So, I thank you for the opportunity and the invitation to be here.

[Mr. Thomas' (of Wyoming) statement may be found in the appendix.]

Chairman **LAFALCE**. Thank you very much.

Congressman Don Pease of Ohio.

STATEMENT OF HON. DONALD J. PEASE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO

Mr. **PEASE**. Mr. Chairman, members of the committee, thank you very much for letting us appear this morning.

I have written testimony which I will submit for the record. Let me just make a few informal comments.

[Mr. Pease's statement may be found in the appendix.]

Mr. **PEASE**. Mr. Chairman, my district is along the southern shore of Lake Erie, just west of Cleveland; and we are in a high development area, a suburban area of Cleveland.

We were getting along just fine until about 2 years ago when the new Federal manual came out, and all of a sudden we were embroiled in the wetlands issue.

By one estimate, well over half of my entire home county could be considered to be wetland; and in the area in the eastern part of our county, which is the hot development area, the closest to Cleveland, something like 90 percent of the land could be wetland area.

As you might expect, that is creating a lot of havoc in our area and a lot of apprehension as well. It sounds like you have the same problem.

I am delighted that the committee is taking up this issue. We do have an opportunity this year to review the law, and review the regulations and the process, and see whether they make sense or not.

I have heard at least a thousand times, and probably you have, too, Mr. Chairman, the statement that begins: I am all in favor of wetlands and preserving our wetlands, but. I would like to try to avoid using the word "but," if I can.

I think there is a commitment on the part of our country to wetlands, as people can understand what wetlands are. One of the problems of the last 2 years is that the new regulations altered the definition that most people have in their minds of what a wetland is.

We think of the marsh along the lake or along the river bed and so on, and now the definition has been broadened and maybe appropriately so. I am not sure.

I think the argument of the biologists now is that hydric soil, what they now consider wetland, far inland from any lake or river, serves an important purpose of absorbing rain when it comes down so you don't have too rapid runoff; and I can see that.

Some people come to me, and they cannot understand why their basements are flooded all the time in these new housing developments. What happens is the developer built the development in a swale and sold the houses during dry weather. I think there have been abuses in the past, and we ought to try to avoid that.

To the extent that we do have flooding and excessive runoff, which is draining off the top soil, part of it comes from the fact we paved over a lot of good land in our society.

So, I think there has to be a proper balance, and I am not one who would argue that development comes above everything else and that we need to create jobs and so on. We do, but not at the expense of everything else.

So, I would just ask the committee to look at two things. One is the newly expanded category of what wetlands are and to make it clear so that the public understands why it is that wetlands of that nature are important, also.

I would also ask that the committee might look to see whether it makes any sense at all to establish a differentiation between one kind of wetland and another. The areas near marshes, bogs, and so on may be conceivably put in a different category than the others and regulated somewhat differently.

I just ask you to look at that. I don't have an answer for you. What I am much more confident of as I speak to you is that whatever the law is, whatever the requirements are that we are going to put on landowners and developers, they ought to be able to understand what those regulations are.

There ought to be an established process that has a beginning point and an ending point in a relatively short period of time, so that a person who goes to the Corps of Engineers is told, this is what you have to do. These are people who can help you decide whether your property is wetlands or not.

Chairman **LaFalce**. Some coordination between the Federal and the State agencies.

Mr. **Pease**. Yes.

In Ohio, that doesn't seem to be a problem; but I am sure that could be, and this is the timetable. You apply in March, and in x number of days, we will have a public notice go up of a hearing; and in a certain number of days we will have a decision for you, yes or no, so at least you know where you stand.

I think there is also a lot of confusion, as Lindsay Thomas mentioned, about the whole idea of mitigation and substitution and what is acceptable and what is not acceptable.

Also, you might look at the issue of consistency among Corps of Engineers districts. Ohio is covered by two different Corps of Engineers offices, one in Huntington, West Virginia, and one in Buffalo, New York.

I get the impression that one is different. The administration is different in one area than another. My experience has been, and I am sure yours has been, also, that American people are much more willing to accept the Federal law, whether it is a tax law that I deal with or the Clean Water Act or whatever, if they understand what it is all about, and there is some sense on their part that the administration is fair, and that they will get a fair shake, and they will get an answer.

So, I would just ask you to look at the process, as well as the underlying question of what is properly wetland and what is not.

Thank you, very much.

Chairman LaFalce. Thank you very much, Congressman Pease.

Mr. Eckart. Mr. Chairman, before you move on, if I may, I am in the enviable position of being surrounded by my colleagues on this question, Mr. Pease to my west and Mr. Ridge to my east.

We all share between us, well more than a hundred miles of Lake Erie shoreline.

The problems that Mr. Pease has outlined in his testimony and that Mr. Ridge will in the next few moments discuss, are not lost upon me and my constituents, and I want to associate myself for this committee's benefit with both of my colleagues in Pennsylvania and Ohio's remarks.

Chairman LaFalce. Next, the congressman from Pennsylvania, Congressman Clinger.

STATEMENT OF HON. WILLIAM F. CLINGER, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF PENNSYLVANIA

Mr. Clinger. Thank you very much, Mr. Chairman, and I commend you for holding these hearings. I am sure you will hear a lot of pent-up frustration.

Chairman LaFalce. We are just trying to serve as a catalyst for action in this Congress.

Mr. Clinger. We are grateful for your willingness to undertake this labor.

I am not going to repeat what you have been hearing again and again about the inconsistencies between the Federal and State jurisdictions, and the overwhelming paperwork that is involved, and all the rest of it; but just picking up on what Congressman Pease was talking about, his district brings it home when you talk about your individual district and the problems it creates.

Unlike his district, or perhaps Congressman Eckart's, or Congressman Ridge's, mine is a mountainous district with a lot of very narrow valleys. The problem is that quite often entire valleys are subject to being declared wetlands, and that makes it almost impossible when you have that kind of a broad definition to go from, and you are going to inhibit any kind of development at all.

The parcels of land on which some of my small business people would like to establish themselves and/or expand their businesses sometimes are just one or two acres. They suddenly become aware that because of the labyrinth of regulations and because of what is in place under section 404, they cannot develop that land at all.

Just to give a quick survey of the number of Federal and State agencies that impact upon small businessmen or landowners in Pennsylvania, at the Federal level you have the Army Corps, the Fish and Wildlife Service, the Department of Agriculture, and the EPA; all are involved in wetland regulation.

In Pennsylvania, the Department of Environmental Resources, the Pennsylvania Fish Commission, and the Pennsylvania Game Commission add another layer of review and approval.

So, now you have four Federal and three State agencies.

Chairman **LaFalce**. Before a farmer wants to do something with his property, he must go to seven or eight agencies. He probably does not know that either.

Mr. **Clinger**. He just throws his hands up and says, "I cannot deal with it," because the chances of his accommodating every one of those regulations by every one of those departments is probably impossible.

I think the overzealous enforcement has also been a problem nationwide. But I just want to give you a couple anecdotal evidences of what it has meant in my district.

We have a small industrial plant in a place called Sandy Township in my district that occupies only a very small part of a 22-acre parcel in a valley setting. There are two sets of railroad tracks which bound the parcel, and each set of tracks lays in a bed that is just slightly elevated upon the terrain.

The tracks have had the unintended effect of acting as dikes, making it difficult for rain or snow melt to go into nearby creeks. The result has been that the rail beds are responsible for creating artificial wetland.

When this fellow tried to expand the size of his building, the State declared that 14 acres of the 22-acre parcel were wetlands, and, therefore, no development was permitted.

Another example, in Pittsfield, Pennsylvania—and this is ironic—a highway culvert got clogged up with debris over the years, and it created a very serious water backup.

The water would drain through a nearby property because the backup couldn't go through the culvert, and it turned what was very dry terrain into a wetland, at least by what the State defined a wetland; and, therefore, the property owner was denied a permit to develop his land.

The irony is that had the State cleared the culvert, as they should be expected to do, there wouldn't have been any obstructions, there wouldn't have been any wetland, and this gentleman would have been able to develop it.

So, I think that our Federal wetlands policy must be refined to give a clear definition of wetlands; to provide a more responsible application process for small property owners, which has been a major problem, so that they avoid the incredible expense of elaborate and expensive detailed drawings often required; and to recognize that not all wetlands are equal and that some clearly make a much greater contribution toward the preservation of biological habitats and diversity.

I know that legislation that my colleague, Mr. Ridge, has been working on addresses all these points. I commend it to your attention, and I thank you very much.

[Mr. Clinger's statement may be found in the appendix.]

Chairman **LaFalce**. Thank you very much, Bill.

Congressman Tom Ridge.

STATEMENT OF HON. THOMAS J. RIDGE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF PENNSYLVANIA

Mr. **Ridge**. Thank you very much, Mr. Chairman.

As I sat here, in knowing that many of my friends and colleagues have preceded before me, I knew I should not start by saying that I am the cleanup hitter, because I am not. You have had many wonderful spokesmen before me.

I didn't want to analyze my position perhaps as the last Congressman, as the one who has been assigned to clean up after the parade; but I do very much appreciate your willingness to listen to so many of your colleagues, not only your willingness, but that of your entire committee.

I thank you for what I consider to be very timely leadership on a very important issue, and the fact that your committee has demonstrated such a strong and early interest in what I consider to be the number one environmental hot button for the 102d Congress.

Although whenever it comes to parceling out jurisdictional responsibilities for whatever legislation percolates through the system, it will at best be peripheral.

I think it is a clear enough signal to everyone who is interested in this legislation and the problems surrounding the existing regulatory framework that this is something that Congress is extremely serious about and that, to the extent that we can—and I do believe we can—we will work together in the 102d Congress to, I hope, come up with a much broader, more comprehensive and, therefore, more compelling and protective piece of legislation.

So, I thank you very much for your leadership, and that of your committee, because I think it sends an early and important signal that everybody in Congress is worried about it, not just those on committees of immediate jurisdiction.

I thank you and commend you for your January 17 statement. I noted in it that you talked about the wetlands delineation manual; and, as so many of my colleagues have referred to that, it was really put together without much public comment and without congressional comment.

[Chairman LaFalce's address is reprinted in the appendix of the January 22, 1991 hearing.]

Mr. **Ridge**. Truly, if we are to solve, if we are to move toward a national objective of "no net loss" and try to solve some of the problems that everyone, just about everyone has experienced, we cannot let any further discussion go on without congressional involvement and, more importantly, congressional approval.

Frankly, from my point of view, I don't think the wetlands delineation manual solved as many problems as it created; and whether that is the equation, it's a lose-lose all the way around.

I also want to thank you in your remarks for highlighting the regulatory overlap. It condensed what you heard today from every Member who has to deal with the various constituencies affected by the existing regulatory framework, the delays and the confusion.

You and I share the Buffalo office of the Corps of Engineers, and Congressman Eckart, is yours out of Buffalo?

Mr. ECKART. Yes.

Mr. RIDGE. Also, I think Congressman Pease. So, we already know that they have an overburdened regulatory staff.

Chairman LAFALCE. The individual who is head of the regulatory branch is an outstanding individual. You couldn't find a better man, but he has to work with the manual. He has to implement the manual. He has to use the limited resources which he has. That is an impossibility.

Mr. RIDGE. You are absolutely right. It's an enormous task with limited resources, and as far as I am concerned, not the kind of focused direction or mandate or comprehensive approach that he as a professional would probably prefer if we could talk to him privately.

So, I think that your recognition of that problem is one that is shared by a lot of us. My colleague, and friend, and neighbor, Bill Clinger, pointed out the overlap, the jurisdictional overlap and the regulatory overlap. We know you have a 404 permitting process. Then within Pennsylvania, we have another permitting process. In New York, you have a permitting process. In Ohio, you have a permitting process. In Virginia, you have a permitting process. We all know that because of the regulatory overlap you get lengthy delays. There is incredible confusion, and there is no predictability of any kind.

I think as you are looking to develop some kind of standard, there has to be a relative degree of predictability, and that involves starting with standards and fairly consistent applications of a standard definition all the way down the line.

Certainly, we have a responsibility to work to see if we can come up with something like that.

In my judgment, because of the overlapping regulatory framework, the difficulties, the inconsistencies in interpretation, the lengthiness, the delays, and the expense incurred, our system now probably encourages as much evasion as it does compliance.

Anyone who concludes anything differently, I would be very interested in learning what empirical or anecdotal evidence they could suggest to the contrary.

Again, rehashing what my colleagues have said, we know that there are manmade wetlands. There probably isn't anybody who does not have some situation where the small business community is affected, where an entrepreneur or a developer has a previously unprotected piece of property, a nonwetlands piece of property, invested money, and done some things in terms of altering the configuration and the topography and, as a result of that alteration of the topography, has created an unnatural flow of rain water that is now being categorized in the pool as wetlands; and further development or expansion has been prohibited.

There are probably not too many congressional districts where that has not happened.

Now, do we, as a legislative body, in our zeal to protect all wetlands and in our commitment to at least a "no net loss" and hopefully an expansion, say, for all times and for all of these situations, wetlands are inviolate? I don't think we can afford to do that.

One of the most dramatic pieces of anecdotal evidence I would share with you—and then I will leave because you have some technical people that I know you want to hear from—is a situation where I was involved with a young couple who had purchased a home several years ago, built up some sweat equity, and got out of it a little money.

Then they went into a small subdivision and bought a quarter acre lot in the middle of a huge subdivision, and from a developer who had the Corps of Engineers' approval. They had delineated the area, and this was not seen by them as a wetlands.

I am convinced, frankly, that one of the neighbors probably called and said that it looks like a good recreational field. It might be a good ball park for our kids, in the middle of the development—this is an area surrounded by wetlands and farm land, just literally hundreds of yards from this.

On the front of this quarter acre-lot, there was an area that I think, if you stretched the definition of wetlands, you might conclude—because I visited it—that it was a wetlands.

Well, these people couldn't build there. Then they had to get involved in litigation and hiring attorneys in order to get their money back; and the developer was prepared to mitigate, to create, to do all kinds of things in other areas of the development.

It wasn't as if it was the only one-eighth acre of potential wetlands in the area. There were literally thousands of acres within a mile. So, I think when we get into this, we have to look at evaluating wetlands and their ecological impact vis-a-vis their environmental impact.

So, I would just share with you, Mr. Chairman, again my sincere congratulations for your leadership and the commitment by your committee on this timely and early review of existing wetlands problems and regulations

We, as an institution and as a legislative body, have to figure out some balance between legitimate environmental and conservation concerns, and with the understanding that 80 percent of these wetlands are on private property.

There must be a balance, and we have to work our way through it. It cannot degenerate into good-guy/bad-guy kind of rhetoric because if that is the approach we take, we will never do anything meaningful, and we will lose the opportunity to achieve the "no net loss" goal. Some of us think that is the minimum.

We want to be in a position not only of avoiding loss, but developing policies that will ensure the creation of further wetlands.

Finally, I would recommend for your review, without going into specifics, because that is not the purpose of this hearing, the Comprehensive Wetlands Conservation and Management Act, of which I know you are a cosponsor and have helped us with. But I would recommend it to your colleagues on the committee.

It may not necessarily be the answer, but we think it's a very positive step in the right direction. Again, we thank you on your leadership on this issue.

[Mr. Ridge's statement may be found in the appendix.]

Chairman LaFalce. Thank you, Governor.

Mr. Ridge. I will get you an absentee ballot.

Chairman LaFalce. We have a number of other Members of Congress who are also running for Governor who were unable to come here today, but the record will be held open at this point in time for Members of Congress who are interested in submitting statements.

[Mr. Baker's, Mrs. Bentley's, Mr. Edwards' (of California), Mr. Huckaby's, Mr. Tauzin's, and Mr. Young's (of Alaska) statements may be found in the appendix.]

Chairman LaFalce. Now, we have the second panel comprised of representatives of the U.S. Department of the Army, the Department of Agriculture, and the EPA. Come to the witness table, please.

Thank you very much, ladies and gentlemen. One of the reasons that I scheduled the panel of Members of Congress immediately preceding the governmental representatives was so that you could sit and listen to not only the members of the Small Business Committee, but also to Members of Congress from across the United States expressing their concerns, their frustration, their fervor about this issue.

Although I do not expect you to respond to that immediately in your prepared statements—you have already had those statements prepared, they have been cleared by OMB—I do expect that when you go back to your offices and you do deliberate, that you get together and say, "Well, we have a hornet's nest on our hands here, and we had better come up with something which is going to respond to the concerns that have been expressed by these Members of Congress who are simply relating the concerns of their constituents. We came up with something. It's out of balance; it's out of whack; and we better get it right."

How long is it going to take you to get it right? I don't know. But maybe you ought to consider what I have called for, a moratorium, until such time that you can get it right.

Because until you can get it right, so long as you keep applying your existing regulations, you are creating chaos; you are creating chaos.

If you get it right in a week or a month, that is one thing. But usually these things take longer than that; and so, if you could, give that some serious consideration.

I don't think we are going to be able to just tinker with this, a little bit of a change here and there. I don't think we can tinker with the law just a little bit. I think we need some major revisions.

Again, this committee does not have jurisdiction, but I am trying to stir it up and move it in the right direction; and I will continue to do this throughout the 102d Congress.

So, with that brief introductory remark, let's now hear from the Corps of Engineers. I spent 2 years in the Army, almost all of that time in Fort Belvoir, Virginia; and I had some titles—I couldn't count all the titles and hats I wore from 1965 to 1967—but I began my love affair with the Corps of Engineers.

Dr. Dickey.

TESTIMONY OF G. EDWARD DICKEY, ACTING ASSISTANT SECRETARY OF THE ARMY [CIVIL WORKS], DEPARTMENT OF THE ARMY, ACCOMPANIED BY MICHAEL DAVIS, ASSISTANT FOR REGULATORY AFFAIRS, OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY [CIVIL WORKS]

Dr. **Dickey**. Thank you very much, Mr. Chairman.

I am G. Edward Dickey, Acting Assistant Secretary of the Army for Civil Works. With me today is Mr. Michael Davis, my Assistant for Regulatory Affairs.

Chairman **LaFalce**. Which one is Mr. Davis? Oh, behind you.

Dr. **Dickey**. I am pleased to be here this morning to discuss the issues which you raised in your January 24 letter and reiterated in your opening statement. I will provide a detailed statement for the record and will keep my remarks brief.

[Dr. Dickey's statement may be found in the appendix.]

Dr. **Dickey**. After some general background information about the Army Corps of Engineers regulatory program, I will focus on specific topics mentioned in your letter.

The Army Corps of Engineers has been regulating certain activities in the Nation's navigable waters since 1899. Until the 1960's, the primary purpose of the Corps' regulatory program was to protect navigation. Since that time, the jurisdictional base and activities regulated under the program have been broadened by administration initiatives, legislation, and judicial decisions. As a result, the regulatory program now considers a full range of public interest factors for both the protection and utilization of all waters of the United States.

As the program expanded, so did its complexity. However, our efforts in implementing this program have always been and will continue to be guided by several basic principles.

First, we seek to administer the program in a way that is consistent with the letter and intent of the law to protect our Nation's waters.

Second, we seek to use available Federal funding and staff resources in the most effective way to meet the requirements of law.

Third, we seek to minimize the potential negative effects on the citizens who are subject to the regulatory process.

The Corps primary regulatory authorities are section 10 of the Rivers and Harbors Act of 1899, section 404 of the Clean Water Act which, of course, is our primary focus today, and finally section 103 of the Marine Protection, Research and Sanctuaries Act.

All permit applications are evaluated in terms of a public interest balancing process. That is, the anticipated benefits of the proposed project are balanced against the reasonably foreseeable detrimental impacts.

In addition to this public interest review, section 404 applications are also evaluated to ensure compliance with the section 404(b)(1) guidelines. The guidelines which were promulgated in December 1980 by the Environmental Protection Agency, in cooperation with the Army, contain the substantive environmental criteria by which the Corps reviews all section 404 permit applications. Corps' permits are issued only when the work involved complies with the guidelines and on balance is not contrary to the public interest.

Of the approximately 15,000 individual permit applications evaluated by the Corps each year, about 10,000 are issued and 500 denied. The remaining 4,500 applications are either withdrawn by the applicant, qualify for a general permit, or are canceled by the Corps.

In addition to individual permits, approximately 40,000 minor activities are authorized each year under the terms and conditions of regional and nationwide general permits. Approximately 92 percent of all permit evaluations, that is both the individual and general permits, are completed in less than 60 days. About 50 percent of individual applications are completed in less than 60 days. Individual applications that involve complex projects or sensitive environmental issues usually require more than 60 days to reach a decision. The number of these complex applications has increased during the last 4 years and are a major part of our work load.

The Corps regulatory program also includes an enforcement arm which investigates some 6,000 reported violations annually and inspects permitted activities for compliance with the terms and conditions of issued permits. In addition to permit evaluations and enforcement, the Corps conducts approximately 25,000 jurisdictional determinations each year.

As I previously mentioned, the Corps authorizes activities through both individual and general permits. Applications for individual permits generally require considerable evaluation and at times are subject to a lengthy and complex process.

General permits are issued for activities which have minor impacts and require little or no project specific review.

In general terms, permit applications that are broader in scope or that affect more sensitive aquatic resources require an individual permit. This means that the application is subject to detailed environmental analysis and evaluation.

If the proposed project involves a discharge of dredge or fill material into the waters of the United States, the applicable State must issue or waive a water quality certificate under section 401 of the Clean Water Act. Also, should a project be proposed within a State's coastal zone, it must be consistent with any approved coastal zone management plan.

An integral part of the section 404 program is the statutory requirement for interagency and intergovernmental cooperation. Currently, the primary mechanism for coordination is the project specific public notice which is sent to interested Federal, State, and local government agencies, adjacent landowners, and any other organization or individual who has expressed a desire to be on the public notice mailing list.

General permits are used to authorize activities whose effects considered individual or cumulatively are minor in nature. A number of minor activities, such as bank stabilization projects and utility line crossings, have been identified and authorized by the Chief of Engineers through the issuance of nationwide general permit. In addition to nationwide general permits, Corps division and district engineers may issue general permits on a regional basis. At the present time, approximately 600 regional permits are in effect around the country. These authorized about 18,000 activities in fiscal year 1990.

The section 404 regulatory program has been an evolving dynamic program that has been shaped by judicial decisions, subsequent legislation, national policy, and local or regional concern. Section 404 is extremely broad in terms of the waters regulated; that is, it applies to all waters of the United States, including most wetlands. Conversely, the scope of activities regulated under section 404 is somewhat narrow. Only projects that involve the discharge of dredge or fill material into regulated waters are subject to 404.

Always of concern to those involved in the Corps regulatory program has been the complexity of the process used to evaluate application. In the early 1980's, the Corps regulatory program was singled out for review by the President's Task Force on Regulatory Relief. In response, the Corps devoted considerable efforts to streamlining the regulatory process in order to reduce the burden on the regulated public. The thrust of that effort was to make administrative changes in the program that promoted good and efficient government without reducing environmental protection contained in the environmental statutes that applied to the program. The measures taken helped to eliminate or reduce unnecessary duplicative or wasteful procedures while leaving the substance of the program intact.

At this time, I will turn my attention to specific issues raised in your letter of invitation. I will start with the wetlands delineation manual, which has been a focus of many of the remarks here this morning.

At the Federal level, four agencies are principally involved with wetlands identification and delineation. The four agencies are the Corps, EPA, the Fish and Wildlife Service, and the Soil Conservation Service. Each of the agencies developed over the years its own techniques for identifying and delineating wetlands. Recognizing the inefficiency and increased regulatory burden on the public caused by the differing agency approaches, the four agencies initiated discussions on the possibility of merging the four Federal methods into a joint interagency wetlands manual. On January 10, 1989, the four agencies adopted the Federal manual for identifying and delineating jurisdictional wetlands. The manual which was implemented by the Corps——

Chairman LAFALCE. Was there debate between the different agencies with respect to what the manual should consist of?

Dr. DICKEY. Unfortunately, I was not involved in the program at that time, and so I really cannot address that. Perhaps one of the other witnesses.

Chairman LAFALCE. Was anybody here involved in it at that time?

Dr. TEELS. Yes, I was.

Chairman LAFALCE. Would you identify yourself, sir?

Dr. TEELS. I am Bill Teels from Soil Conservation Service, and I was part of the interagency team that developed the Federal wetlands manual. Yes, there was considerable debate as to what the criteria, where and what the indicator should be to determine whether or not the criterion was met.

Chairman LAFALCE. Could you try to outline for us the positions, some of the principle issues, that were taken by the Corps, by the EPA, by FWS, by the Soil Conservation Service?

Dr. TEELS. Well, perhaps it would be best to sort of characterize where each of the agencies were with respect to what they were calling wetlands.

Chairman LAFALCE. Good. That would be helpful.

Dr. TEELS. To say that they were all at the same place, each agency was at a different place, and to say that one agency, even within the agency was at the same place, would be wrong.

Chairman LAFALCE. There were divisions within the agencies, also?

Dr. TEELS. Right.

Chairman LAFALCE. Out of this tremendous diversity of opinion, how did you come to an agreement? Was one of the agencies pretty much able to impose their will? Was there some collective consensus that was finally reached?

Dr. TEELS. It was collective consensus.

Mr. OLIN. Will the Chairman yield?

Chairman LAFALCE. Yes.

Mr. OLIN. Was there an effort made to rationalize the definitions and delineation subjects and simplify them, or did you merely adopt everything that every agency thought and try to get it in the manual?

Dr. TEELS. No, there was considerable effort to try to simplify the process, to come up with the best wetland identification procedure that could be come up with, considering that each agency had good points and bad points about how they identified wetlands.

Mr. OLIN. Did the group feel that they had made a real contribution in that manual?

Dr. TEELS. At that time, I believe we did think that we had made a contribution.

Mr. OLIN. You don't seem to be getting too much credit for that at this time.

Chairman LAFALCE. What was the reason for not submitting the manual to some formal rulemaking process?

Dr. TEELS. I probably should defer that to the other agencies that were more involved with the rulemaking as it relates to 404.

Ms. WILCHER. Mr. Chairman, if I might just address it. I am Assistant Administrator for Water at EPA. That issue currently is in litigation in four U.S. District Courts.

The District Court of Virginia has ruled that whether it should have been submitted for rulemaking is not ripe for review at this point in time.

But basically, the Federal Government's position in the litigation is that this was not a legislative rule subject to the Administrative Procedures Act [APA] requirements of notice and comment but was merely a further interpretation of policy.

If I could get out of the kind of lawyer mode for a moment, basically what we were talking about here was four different agencies, each of which had a formal definition of what a wetland was.

I note that at least EPA had been through rulemaking, notice, and comment on its definition, as had the Corps. The Corps' definition was adopted in 1977, and while I was not at the agency at the time that this was signed either, I have with me John Meagher who was, and he can certainly add to it.

But basically, I have come to the agency and tried to wade through this delineation manual and deal with the implementation of it in the aftermath.

The four agencies were merely trying to recognize that they had four definitions that were reasonably close; but out in the field, everyone was complaining. The public saw four agencies doing things four different ways.

It was in response to those public concerns that the four agencies tried to sit down and say, OK, when we get out to the field, our biologist and technical people——

Chairman LAFALCE. Ms. Wilcher, I appreciate your comments, your perspective, but I have been a Member of Congress for over 16 years; and the complaints which I receive within a week are considerably greater than the complaints I received over the entire 16 years prior to this "clarification" of wetlands.

So, obviously, there was—I will be generous in saying—a very unintended consequence. It's broke, and I don't know that it was broke before.

So, people in the bureaucracy perhaps thought of it as broke before. I am not sure if it was or wasn't, but I know one thing for sure—it's broke now, and it needs fixing.

Please proceed with your testimony.

Dr. DICKEY. Thank you, Mr. Chairman.

The development of the manual, essentially, was intended to give an operational definition to the Corps and other agency definitions of wetlands. In the case of the Corps, that definition has remained unchanged since 1977.

We believe that the manual represented a good faith effort on the part of the Federal agencies to bring consistency. I think that is the key here, the notion that the manual did bring a nationwide consistency to the operational definition of wetlands. As has certainly been brought out today, and, in fact, as was considered when the manual was adopted, it's not a perfect document. The interagency delineation committee even agreed to reevaluate its use, approximately 1 year from its adoption.

In this regard, the interagency committee has initiated its review to identify needed changes and clarifications. The public has participated in this review at four national public meetings and through the submission of written comments, and I can assure you there have been many of those provided.

The committee has met on three occasions since October 1990, and draft recommendations for changing the manual are being developed. We believe that the proposed changes will significantly improve the manual by clarifying it and reducing the opportunity for erroneous wetland jurisdictional determinations.

In regard to——

Chairman LAFALCE. Dr. Dickey, let me just interrupt you here. There are many ways to proceed, and I don't know that any one is the best. You say that since the promulgation of the manual, there were four hearings after the fact, nationwide hearings. Where were those four hearings?

Ms. WILCHER. Sacramento, St. Paul, Baton Rouge, and Baltimore.

Chairman LaFalce. I don't want to criticize four, nor do I want to criticize those occasions, but I am not sure how adequate that is. But that is one approach.

I would think that if you are going to have public hearings, you would have many, many more than that to permit agencies from all other areas of the country the ability to make comments.

Of course, they can always do it with written comment from wherever they are; I understand that. But what other approaches are you taking?

For example, next week we are going to have another hearing on this, next Wednesday, and we are going to have groups which have expressed interest because they represent small businessmen.

I don't have them in front of me right now. Maybe my staff does—the American Farm Bureau, the National Association of Realtors, the National Association of Homebuilders, Associated General Contractors of America, the National Wildlife Federation, et cetera.

Have you attempted to sit down with representatives of these groups in a room, rather than just having this formal presentation, and try to work something out?

Dr. Dickey. I am not aware of any meetings such as that.

Chairman LaFalce. Well, if they took place, you would be leading them, would you not; or would it be EPA that would be leading them?

Ms. Wilcher. Mr. Chairman, I expect it would be safe to say that all of us sitting here at this table have met with a variety of groups on wetlands issues, including the delineation manual.

I have met with 50 presidents of the State Farm Bureaus, and barely managed to escape with my skin, but did.

I have met with homebuilders, and so we have, I think, made an effort to be open, and sit down, and meet with, and listen to the many commentors.

Chairman LaFalce. But has it been part of the process designed to fix what I have described as a broken system? Has it been with the thought in mind of what changes could be made in order to accommodate everybody's concerns?

Has there been any collective effort? Obviously, Dr. Dickey of the Corps was unaware of it. If he was unaware of it, I am not sure how coordinated it was or how meaningful it could have been, unless EPA has primary or sole authority in this area; and that is something that is of concern to me, too, the appropriate role which should be given to EPA on this issue.

Ms. Wilcher. Well, Mr. Chairman, as I have said, we have all met many times with individuals who are concerned about these issues; in particular, the Department of Agriculture has——

Chairman LaFalce. Well, is there some type of task force which exists right now? There was a task force before; is there a task force now for the review and change of the system?

Dr. Dickey. Yes, indeed, Mr. Chairman. We have, and all of our agencies here are represented, dealing with the——

Chairman LaFalce. Who chairs that task force?

Dr. Dickey. I don't know that we have a designated chairman. It's a small working group, essentially to take——

Chairman LaFalce. What is the defined mission of this leaderless task force? What is its defined mission? Is its defined mission set forth in writing, or is it undefined?

Dr. Dickey. I am not certain it's in writing. It is to give greater operational clarity to the definition of wetlands.

Chairman LaFalce. Is it perhaps to scrap what you have done and come up with something new? That is what I am suggesting. I think that is what a lot of Members of Congress are suggesting. You have to go back to the drawing boards.

Dr. Dickey. Well, we have an established definition of wetland. In fact, it has been affirmed by Congress in the Food Security Act of 1985——

Chairman LaFalce. Wait a minute now. Is this the definition that you are using under the section 404 permit process?

Dr. Dickey. Yes.

Chairman LaFalce. And Congress came up with this definition?

Dr. Dickey. It affirmed it in the Food Security Act.

Chairman LaFalce. Tell me about that.

Dr. Dickey. I will let my colleague.

Chairman LaFalce. Everybody has said that under 404 there is not use of the word "wetlands," that the word "wetlands" is perhaps used in some other context such as the Swampbuster provisions of the farm bill, but that it is not defined at all in section 404, and that the fact that it wasn't defined at all in that law is what permitted this type of debate which enabled you to come out with some type of definition in the manual.

Dr. Dickey. Well, again, the manual is attempting to take a conceptual definition which deals with saturation and soils.

Chairman LaFalce. What is the conceptual definition?

Dr. Dickey. Well, the Corps promulgated one in 1977 when it issued its rule.

Chairman LaFalce. We had no problem with whatever they were doing in 1977. We had no problems until 1989.

Dr. Dickey. The problem is to go from a conceptual definition to an operation definition.

Chairman LaFalce. Is the conceptual definition in writing?

Dr. Dickey. Yes, it is in rule. It has been a part of the rulemaking.

Chairman LaFalce. But that differs drastically from the definition that is being used today, does it not?

Dr. Dickey. No.

Chairman LaFalce. Maybe I should scratch the word "drastically;" it differs.

Dr. Dickey. It is a couple of sentences, and the problem is how do you take that abstraction and translate it into on-the-ground determinations. That is the challenge, and it turns out it is pretty complicated.

Chairman LaFalce. What changes did you make in 1989 and 1990 which have caused such havoc around the country?

Dr. Dickey. Well, I think it is fair to say that the conceptual definition was being applied around the country by the different agencies. Certainly it differed, and within the Corps of Engineers it differed.

What we did was essentially to make that definition more operational, if I may use that term, so that there is greater consistency in practice. This did change what some people were doing, because there were differences.

Chairman **LaFalce**. I see a lot of people in the audience shaking their heads. Anything else to try to help give me an answer to my question?

Dr. **Gray**. Mr. Chairman, I am Mack Gray, Associate Chief of the Soil Conservation Service.

I was working as liaison during the development of the 1985 farm bills, which is the Food Security Act, which contains the Swampbuster provision as its properly known.

That act contained the definition of wetland that——

Chairman **LaFalce**. For what purposes? For all purposes?

Dr. **Gray**. Just for swampbusters.

Chairman **LaFalce**. Just for that purpose, right? So, that was not an affirmation of anything else, was it? It was very, very limited.

Dr. **Gray**. It was specific to the Food Security Act for 1985.

Chairman **LaFalce**. Precisely. That was in 1985——

Dr. **Gray**. That was in 1985. When we began to implement that act—let me go back just a little bit. That definition that was in there had three criteria that had to be met for land to be defined or identified as wetland.

Number one, it had to be hydric soil.

Number two, it had to have wetland hydrology.

Number three, it had to contain a predominance of what is known as hydrophytic vegetation. Those were the three characteristics that had to be met.

As we started to put the rules and regulations together, it came to our attention that during the development of that act, the Merchant Marine and Fisheries Committee had what I would call sequential jurisdiction—and that may not be exactly the right terminology—to the Agricultural Committee on that act and had prepared a committee report.

In that committee report, it stated that it was the intention of that committee that the hydrophytic vegetation not have to be present physically, but if the site would, did, in its native state have hydrophytic vegetation on it, and if it would, if simply left alone, revert to hydrophytic vegetation, we should assume that the hydrophytic vegetation was present.

The other two conditions it didn't address, and we assumed that they had to be met, it had to be hydric soil, and it had to have wetland hydrology.

This caused us to identify land that did not have hydrophytic vegetation actually growing on it, and this caused confusion, because Dr. Dickey, I am going to semiquote, if I may, from one of your regulatory letters, if I may use the terminology, that I had at that point in time or during the time we were working on the rules and regulations, that the Corps was using guidance in their field that said that the hydrophytic vegetation had to be present, unless it had been destroyed in an attempt to evade the act.

Our interpretations of the definition for the Food Security Act, because of the fact that we were following the guidance that we received from the committee report, didn't have to be destroyed in an attempt to avoid the act, but even if it had been destroyed 100 years before to avoid cultivation, assuming that it was present.

So, therefore, we were calling a lot more land wetland with the interpretation of almost the same definition than the Corps of Engineers had been calling for the most part around the country.

Chairman **LaFalce**. I don't know if I am hearing you correctly, but it seems to me as if you said you revised what you had been doing for 100 years because of something contained in a committee report.

Dr. **Gray**. No, sir.

Chairman **LaFalce**. I am very cautious about committee reports, because more often than not, there is not a Member of Congress who has read any committee report. More often than not, they are prepared by a number of different staffers, unread by the members of the committee, unread by any Members of Congress; and I have even seen committee reports quoted as Supreme Court decisions as interpretations of legislative intent when it was the exact opposite of legislative intent. It was something that a staffer wanted to do and never could get his Congressman to go along with, so he stuck it in there.

So, be very, very careful. Sometimes things even get by me. But be very, very careful.

Dr. **Gray**. Let me go back in and talk about—clarify a little bit, because, obviously, I wasn't, in terms of what I was talking about in 100 years. For example, the Corps was making the interpretation the hydrophytic vegetation had to be present on the land, unless the owner, or whoever, had destroyed it in an attempt to evade the act.

On the other hand, because we were using the guidance from the committee report, we were making the assumption that irrespective of when it was removed, that if the land would, in fact, revert to hydrophytic vegetation if it were left alone, we were assuming hydrophytic vegetation to be present.

This is different interpretations of almost the same definition. When the handbook, manual came out, the procedure that we were using was the one that was adopted for the handbook, and this did, in fact, bring some additional land in—at least in my judgment—that had not been subject to 404 before, because it was a different interpretation.

Mostly that involved land that had been converted—been drained, or dredged, or filled, or whatever, for the purpose of producing an agricultural commodity which was specifically exempted from the Swampbuster provision, because it was converted prior to the act.

The Food Security Act also exempted artificial wetland. So, we had some clearly stated legislative exemptions for some different categories of wetlands that were now brought in, particularly one, and that was land that had been farmed and had hydrophytic vegetation removed as part of the normal farming operation.

So, that was the case where I believe that you had additional land covered that hadn't been covered prior to the adoption of the manual. Since that point in time, I believe it was about last September, October, there was another regulatory guidance letter that exempted the previously converted crop land, which took up several million acres—I don't know exactly how many million acres that were no longer covered that were covered between January 1989 and September 1990.

Chairman LAFALCE. What a morass. What a morass. Let's go back to the ordinary procedure, and let's hear the testimony once again. Dr. Dickey, do you think if I gave you an additional five minutes?

Dr. DICKEY. Yes; thank you, Mr. Chairman.

I was discussing the manual, and I mentioned, in fact, we had gone through a public comment process, and we are now developing a revised manual which we believe will address many of the concerns that have been raised across the country.

Let me briefly discuss the EPA-Army Memorandum of Agreement on Mitigation [MOA] which became effective on February 7, 1990. The mitigation MOA provides general guidance on the mitigation requirements of the section 404(b)(1) guidelines. The purpose of the MOA is to articulate and clarify the procedures that Corps district engineers use to determine the type and level of mitigation necessary to demonstrate compliance with the guidelines. The MOA is a clarification of existing regulations and was developed in response to questions that have arisen from Corps and EPA field offices—again, it is an attempt to develop national consistency.

As part of our ongoing efforts to more efficiently administer the program, we have also completed a number of other actions. These are detailed in my statement, and I wouldn't discuss them here.

I would, however, like to mention briefly some of the things that we have done in terms of staffing and funding for the regulatory program. It may be of interest to you that in recent years, the Congress has decided to fund the Corps' regulatory activities as a separate line item in the Corps' appropriations, as opposed to including it in the operation and maintenance program, so we do have a specific line item in the budget and receive specific appropriations for our regulatory activities.

Consistent with that, we have increased our funding for the program to respond to some of the concerns that have been raised today, and we have also directed the Corps to increase its regulatory staff by some 25 percent by the end of fiscal year 1993.

Chairman LAFALCE. You directed who to increase?

Dr. DICKEY. The Corps.

Chairman LAFALCE. The whole Corps?

Dr. DICKEY. Yes; this 25 percent is an aggregate. Now, obviously, the distribution of that 25 percent should be in accordance with where the pressure points are.

Chairman LAFALCE. What are the plans for this particular pressure point, regulation of the permit process?

Dr. DICKEY. The 25 percent is for the regulatory staff. In other words, within the total of the Corps of Engineers, we are increasing the regulatory portion of that staff. No increase in total employees, just reallocating. Going with that is an increased funding level for the regulatory level of the Corps.

In closing, let me emphasize our commitment to proper administration of the regulatory program. The Corps has a long history of fairly administering its regulatory program. We will continue as we move into our second century of regulatory activities in our Nation's waters to demonstrate our commitment to effectively administering that program, within the resources that we have.

We hope to improve our general permitting program, which I mentioned covers many of the activities. We hope to look to developing general permits around State programs. We would have State-specific general permits to accommodate the different initiatives that the various States have taken, and thus simplify the process. We recognize that we certainly don't have a perfect program, and we continue to move toward simplification of that program, as well as matching the resources to support it.

Chairman **LaFalce**. Do you have a timetable for changing the program, for simplifying it?

Dr. **Dickey**. It is a continuous process, Mr. Chairman.

Chairman **LaFalce**. That can be helpful or can be disastrous. Do you have any milestones along the way?

Dr. **Dickey**. Yes; for example, our whole nationwide permit system is now undergoing a systematic reissuance process. There is a specific schedule for that.

Chairman **LaFalce**. That is the nationwide program. What about this revision of the Federal manual?

Dr. **Dickey**. The manual, again—we are in the process of winding up the technical drafting of that, and we intend to present it to the policy level folks very shortly.

Chairman **LaFalce**. Who are the policy level folks, and what is very shortly?

Dr. **Dickey**. I would say within the next month or so, and I would say the administrators of the various agencies and myself in the case of the Corps.

Chairman **LaFalce**. Is this document going to be made public at some point in time, or only after approval?

Dr. **Dickey**. Whether or not we will consider rulemaking is yet to be determined. We have decided—as Ms. Wilcher indicated, it is not required by law to go through the administrative rulemaking process, that option remains open to us. We also have the option of reissuing it.

Chairman **LaFalce**. I would exhort you in the strongest possible terms to submit it to the rulemaking process, open it up to the public. But more than that, I would exhort you to go back to what you were doing before the Federal manual came into existence because of the havoc that it is creating.

Our next witness, from the EPA, Ms. Wilcher.

TESTIMONY OF LAJUANA S. WILCHER, ASSISTANT ADMINISTRATOR FOR WATER, ENVIRONMENTAL PROTECTION AGENCY, ACCOMPANIED BY JOHN W. MEAGHER, ENVIRONMENTAL ENGINEER, OFFICE OF FEDERAL ACTIVITIES, EPA

Ms. **Wilcher**. Thank you, Mr. Chairman.

I am LaJuana Wilcher. I would ask that the full copy of my testimony be submitted for the record, and will talk briefly in response to some of the many comments I have heard here today.

[Ms. Wilcher's statement may be found in the appendix.]

Ms. **Wilcher**. Mr. Chairman, I am sure you and other Members of Congress have heard a lot about wetlands. Since I was confirmed 1 year ago October, I have spent an amount of time on wetlands I never would have imagined. We deal with drinking water, wastewater treatment, industrial discharges, ocean and marine issues, and wetlands. I have to confess I was a bit surprised shortly after I was confirmed when I asked my acting predecessor what she spent most of her time on, and she said wetlands.

I couldn't imagine why, but I was soon to find out. I found out the wetlands program had developed over a course of years through judicial opinions, as well as changes in legislation. In the process of developing, we have seen not just a change in rules and regulations, but also a change in public attitude.

I find it interesting today that every Member of Congress who spoke, started out by saying we need to protect our wetlands, but we need to do it in a sensible fashion, when 20 years ago, many people in this country, both within the Federal Government and outside the Federal Government, saw wetlands as things that needed to be filled to prevent mosquitoes.

I think there has been a real shift in the way the American public perceives wetlands.

Chairman **LaFalce**. I think it is also true that most Members of Congress were trying to mitigate what would be very hard, harsh remarks in prefacing their comments so as not to sound unreasonable. I want you to factor that in, also. I think both are true.

What you said is absolutely true. I think what I said is also true. They don't want to be so critical. They don't want people to think they oppose wetlands because of the vehemence of their criticism. Go ahead.

Ms. **Wilcher**. Nevertheless, I think more people are interested in protecting wetlands.

Chairman **LaFalce**. We don't want to lose that.

Ms. **Wilcher**. Having heard from many, many different sources in responding to letters from Congress and hearings before Congress previously on this issue, and having met with other Federal officials, with environmental groups, with industry groups, with farmers, with individual citizens who are concerned about the wetland problems, I think that the Federal agencies that are involved in wetlands protection have in recent years been trying to be responsive to what they have heard from the public about wetlands protection.

As an indicator of that, I would like to just briefly mention a number of things the agencies have done to try to have a unified Federal position on these issues, which for many years we did not.

The Corps of Engineers was going one way, EPA sometimes was going another. It was very confusing for the public. Albeit this very confusing——

Chairman **LaFalce**. I understand; but when we talk about the problems we used to have because of all this confusion which used to exist, I know that those problems were minimal in comparison to the problems which are now being expressed, now that the confusion has been clarified. OK.

Ms. **Wilcher**. Do you want me to continue?

Chairman **LaFalce**. Sure.

Ms. **Wilcher**. Yes——

Chairman **LaFalce**. Let's just not kid ourselves. Let's not think we did something good, that we eliminated confusion. The confusion exists 100 times more now than before. The confusion exists now, 100 times more than what existed before. Go ahead.

Ms. **Wilcher**. Mr. Chairman, I think it is fair to say none of us here are apologists for the program. We are here trying to work together and continuing to work with Congress to have a program that protects wetlands, and is understandable, and makes sense, and does not necessarily impair economic development. None of the principals here today signed the delineation manual, so we are not here to try to protect something out of pride of authorship.

We are here to work with you and work together to try to clearly establish the field practices that would be going on in the wetlands. Part of my job is to try to ferret out what the facts are, and what the myths are, and what the misunderstandings are.

I think in the case of wetlands, there is a little bit of all of that. There is a little bit of fact, and a little confusion, and a little bit in terms of what actually goes on in the field.

Through a series of the four public hearings that were held throughout the country, we have sat down to listen to what people have to say, and have taken public comments on a document, not because we were required by law to do it, but because we thought it was the right thing to do.

Our staffs are meeting now to go through those comments. They were submitted to the Corps of Engineers, and the Corps took the lead in working through and helping to summarize those. We are working to try to listen to the public and see what changes need to be made in the delineation manual so people can understand it and use it.

I don't think a person should have to hire a consultant to know whether their property is a wetland. It should be simple enough so a person can reasonably understand what is regulated and what is not. If we are not putting out documents and rules that people can understand, then we are not doing our job.

Chairman **LaFalce**. Ms. Wilcher, I appreciate the difficulties of your office and your agency—they are considerable, they are great—but I have had much experience with agencies over the years and with EPA. Two years ago during the 101st Congress,the committee held hearings on lenders' liability under Superfund. Initially, EPA basically was of the opinion that there was no problem; and then they came around to the point that there was a serious problem and perhaps it could be resolved by regulation, not legislation.

EPA has been trying with regulation now for almost a year, and I still don't have a proposed regulation in front of me. Proposals go to OMB; they come back; and we still don't have anything. That problem has been festering for years and years now. That is one of the problems we have with this wetland situation.

I hope that by this hearing, we are catching the attention of the administration and its agencies. Bureaucracy works slowly at something like this. I am fearful this could take years, despite all good intents. I have seen good intents in the past on so many issues, and it has taken so long. That is why I keep coming back to the point that we didn't seem to have problems before the manual.

Can we have a suspension or moratorium on the implementation of the manual? Can we go back to the prior rules, which I didn't think were bad at all, until such time as you do come out with revisions of the manual? If the manual is in need of such tremendous revision, on which pretty much everybody agrees, can't we put it on hold?

I don't think that you will come up with something in a month. If you believe that, I think we have a difference of opinion. I hope you are right. But 99 times out of 100, the agencies work much more slowly than they would like to, and sometimes that slowness is measured in years, rather than in months. Consider that.

I am speaking for the small business community now. That is my job. I understand that there are environmental considerations; and, as both an individual and as a Member of Congress, I am concerned about those. But I must make sure that the concerns of the small business community are being considered—the individual farmer, the individual developer, all those affected—and we can't wait for all this bureaucratic delay. I am fearful of it.

If you want to, say, give us a month, OK. But if you don't come up with something in a month, then maybe go to the moratorium. Consider that very seriously.

Ms. WILCHER. Mr. Chairman, perhaps I should just conclude any remarks and be prepared to answer any questions you might have for me.

Chairman LAFALCE. Sure, thank you.

Let's go to the representative of the Department of Agriculture, Mr. Moseley.

JAMES R. MOSELEY, ASSISTANT SECRETARY FOR NATURAL RESOURCES AND ENVIRONMENT, U.S. DEPARTMENT OF AGRICULTURE, ACCOMPANIED BY MACK GRAY, ASSOCIATE CHIEF, SOIL CONSERVATION SERVICE, AND BILLY TEELS, NATIONAL BIOLOGIST, SOIL CONSERVATION SERVICE

Mr. MOSELEY. Thank you, Mr. Chairman.

I am pleased to have this opportunity to testify before your committee. This is an important moment for me as a recently confirmed Assistant Secretary of Agriculture. This is the first opportunity I have had to appear and testify before a committee of Congress, and I appreciate this opportunity to do that.

As a result of my relative newness into this position, I have asked Dr. Mack Gray, Associate Chief of the Soil Conservation Service, and Billy Teels, National Biologist for the Soil Conservation Service, to assist me.

My official testimony has already been submitted, and I will attempt now to summarize that in as short a time as I possibly can so we can move to some additional questions.

[Mr. Moseley's statement may be found in the appendix.]

Mr. MOSELEY. First, Mr. Chairman, as many today have stated, I want to make sure it is understood that USDA is committed to the preservation and restoration of values that wetlands provide. We support the President's net loss objective, and our goal has been to do so in a reasonable, responsible, practical, and efficient manner.

In 1985, the enactment of the Food Security Act dramatically changed USDA's approach to conservation. For the first time, the set of most Federal farm benefits, agriculture credit crop insurance, became conditional on the application of certain land steward practices by agricultural producers.

Of course, included in this was the protection of wetlands. The main provision of the 1985 Food Security Act affecting wetlands was the program we call Swampbuster. Congress established this program to help protect the Nation's wetlands. What Swampbuster did was deny Federal farm program benefits to producers who planted agriculture commodity on wetlands which were converted after December 23, 1985, the day after the act was enacted into law.

It is important to know Swampbuster—instead, complying with Swampbuster requirements is a condition for participating in Federal farm programs.

The 1985 Food Security Act contained the first legislated definition of a wetland. Essentially, to be a wetland, an area had to have three major characteristics: Hydric soils, hydrology, and be able to support hydrophytic vegetation under normal circumstances.

The problem or the key phrase in the definition was the term "normal circumstances." Again, using congressional guidance, the committee report that Dr. Gray talked about, USDA interpreted normal circumstances to mean certain wetlands could be farmed under natural conditions.

It could have hydrophytic vegetation removed—in other words, as a normal part of tillage and so forth, it would no longer be present, yet still function as a wetland. This interpretation meant crop land, if it had hydric soils and hydrology, would be considered a wetland if it was capable of supporting this vegetation.

When formulating the rules and regulations for Swampbuster, it became widely recognized not all wetlands are equal. USDA realized it was possible for the land to meet the scientific definition of a wetland and yet to have been changed to the point that it would have little, if any, wetland value.

So, even though Swampbuster recognizes crop land can be classified as a wetland, it also provides five different operational definitions to designate different types of wetlands. That is wetlands, those things that are easy to understand, we can see the water standing on them. Farmed wetlands, which are seasonal, prior converted wetlands—that is the kind of land I have on my farm, a lot of prior converted lands where drainage already existed. Converted wetlands, conversions that may have occurred post-1985 signing of the bill and artificial wetlands.

These designations provide USDA with a workable approach that allows us to protect wetland areas while, at the same time, exempting lands to make the law more reasonable and practical, and to comply with legislative mandate.

Chairman LAFALCE. You categorize wetlands for the purposes of Swampbuster; is that correct?

Mr. MOSELEY. Yes.

Chairman LaFalce. The Corps does not, for purposes of the 404 permit; is that correct? You do not follow the five categorizations?

Dr. Dickey. No; we don't, Mr. Chairman. Within the regulatory context, the focus on categorization deals with the function those wetlands perform. That is largely an area of judgment, certainly.

Of course, there is a relationship in many cases.

Chairman LaFalce. Some Members of Congress have suggested not all wetlands should be treated the same.

Dr. Dickey. I agree with that. I don't think there is anyone, frankly, who would disagree with that.

Chairman LaFalce. Aren't they basically treated the same now?

Dr. Dickey. No; they certainly are not.

Chairman LaFalce. They are not?

Dr. Dickey. No.

Chairman LaFalce. That is one of the complaints I have been getting.

Dr. Dickey. Maybe they aren't treated as differentially as some think they should.

Chairman LaFalce. You have to go through the delineation and the mitigation process for any category of wetland; do you not?

Dr. Dickey. In an appropriate context.

Chairman LaFalce. You still have to go through the whole process?

Ms. Wilcher. Not in situations, Mr. Chairman, where general permits cover the regulated activity being undertaken by the potential applicant. As Dr. Dickey mentioned in his testimony, about 40,000 wetland alteration activities occur every year under general, or regional, or State permits, and those don't typically go through those steps.

Those typically, consistent with the statute, are wetlands that would be less valuable, there would be less damage that would be occurring.

Chairman LaFalce. Does wetland differentiation apply in individual permits?

Ms. Wilcher. In the individual permit category, there are areas which we do take into consideration the different values of wetlands. For example, the level of permit review that is given, the extent to which someone devotes his or her time in review would be based in part on the value of the wetland.

Chairman LaFalce. Who does this, the Corps or EPA?

Ms. Wilcher. The Corps; the EPA does a review for its statutory regulations; and to a certain extent, Fish and Wildlife.

Chairman LaFalce. For every permit, an applicant must go through all these agencies?

Ms. Wilcher. No; another way that, again, I think is often misunderstood—it is often misunderstood that the agencies don't take into account different values and functions. One of those things I would put into the myth category, and we have a hard time explaining sometime. For example, in mitigation, if mitigation is required, then the mitigation that is required would be commensurate with the value of the wetland.

If it is very valuable wetland, then high-quality wetlands would need to be created or restored in order to compensate for that. In addition to those ongoing, existing types through the general permit process, through the mitigation activities that would or wouldn't be required, in addition to those types of things, we are currently looking at classification schemes consistent with the type of legislation that has been introduced, consistent with the experiences that certain States that have classification systems have.

For example, I believe New York had a classification system in its State program that was made law in about 1975, and we are looking at the review done by the State of New York of its own program to see what is workable. There, we are looking at a new program that the State of Maine has for their classifying wetlands into three different areas, as well as one New Jersey has.

That is something clearly not beyond the pale as we move toward authorization.

Chairman LAFALCE. That is encouraging.

Please continue, Mr. Moseley.

Mr. MOSELEY. Probably to shed any additional light on it or to not add to the confusion, USDA also has another wetland designation, which is called minimal effect exemption. As the term implies, this is used where the conversion of the land would have a minimal effect on the environment.

Since enactment of the Swampbuster provision, the Soil Conservation Service has made a total of 1.4 million involving more than 12 million acres. A key point is that USDA is not waiting for producers to determine wetland determination. We are in the process of doing those determinations for every program participant, so they are going to know their status in advance before making decisions regarding their farming operations.

Right now, we have done wetland determinations for about 50 percent of program participants, and it is our goal we will finish those determinations by the end of this fiscal year—calendar year, I am sorry.

Another point is that Soil Conservation Service employees are the people who do wetland determinations. We have trained technical people in practically every county in the United States, and they are familiar with the local conditions, and we think are the logical choice in terms of making those decisions.

Once the Soil Conservation Service makes that determination, it is sent to the producer for their review. I own some land in Indiana, and a couple of weeks ago, my tenant received hard determination, and we talked about it, and, fortunately, I happened to agree with it. If the producer agrees with the determination, the Soil Conservation Service makes that final.

If the producer disagrees, then SCS employees will revisit the issue. If necessary, they will make an onsite examination in the field to verify the determination. Once this is done, final determination is made.

But even then, nothing is final. Let me stress here that there is an appeals process. No final determination is made without the producer being notified and having the opportunity then to subsequently agree or disagree with that determination.

To protect the interest of agricultural producers, USDA has built into Swampbuster, a four-level appeal process. The appeals process allows producers to formally disagree with any determination. Producers can appeal at the local area, State, and national level on any determination that they feel is in error.

As you know, a little over 2 years ago, the four agencies signed an interagency manual for identifying and delineating wetlands. The purpose of the manual was to provide a common basis for identifying wetlands among the Federal agencies with primary wetlands responsibilities.

As far as USDA is concerned, the effects of adopting the Federal manual were minimal. The wetland criteria for Swampbuster in the Federal manual are, for all practical purposes, the same. The principal change caused by the manual as it relates to agriculture was not with Swampbuster, but with 404 of the Clean Water Act.

Initially, the agricultural community was concerned over this because crop lands formerly not regulated could now be regulated. This issue is largely resolved when the Corps of Engineers announced they would exempt the prior converted crop land from 404 requirement. Wetlands, Swampbuster provisions of the 1985 act, and now the 1990 farm bill as well, and, too, section 404 of the Clean Water Act.

Even though Swampbuster and 404 use the same wetland identification procedures, these programs are separate and distinct. Mr. Chairman, while USDA believes in and has implemented wetland protection efforts, to our knowledge, the impact on small businesses due to Swampbuster has been minimal.

That concludes my statement. Again, I appreciate the opportunity to be here and would be pleased to answer any questions.

Chairman LAFALCE. Thank you.

In addition to the difficulties in dealing with individual Federal agencies or groups of Federal agencies, there has also been the problem expressed by many Congressmen, including Congressman Clinger, of dealing with State agencies. Are there any attempts to try to work out a uniform relationship between the Federal Government and State governments not by preempting the field, but by developing some type of model working relationship with the States—or is it essentially left up to each individual State to proceed as they see best in enacting their own laws or establishing their own regulatory processes to comport with the intricacies of the Federal overlay?

Ms. WILCHER. Under the Clean Water Act, States have the opportunity to run most of the 404 program. Only the State of Michigan, so far, has sought and received approval to do that. Most States have not sought the authority to have what is called program assumption. Such State assumption, as you may be familiar, is the normal condition with most of the other programs EPA administers.

Once a State puts laws on the book that are consistent with the Federal laws, and shows it has the capacity to administer those laws, then the State runs the program and EPA would in most circumstances simply provide review or overview of the program.

We believe in State programs, and we would like to get States more involved.

Chairman LAFALCE. In New York State, most of the controversy on wetlands has been directed toward the State instead of to EPA. I am not sure that is fair, but I think that has been the case so far.

I am not sure that that is going to be the case tomorrow or in the weeks ahead. But at least up until now, that has been the case. According to Congressman Pease, that did not appear to be the case in Ohio. Obviously, there are different approaches being taken, not only by Federal agencies in different parts of the country, but by different States.

I understand that only one State has taken over the implementation of section 404, but I am wondering whether there is any Federal effort to try to harmonize the State interface with Federal law?

Ms. WILCHER. In fiscal year 1990, EPA, for the first time, had funds to administer to States to help them develop wetlands programs. We had about $1 million in fiscal year 1990, which was administered to 23 States. This year, we have $5 million we will be distributing to States. We had meetings with State association wetland managers to try to work with them to bring about greater consistency with their programs.

Chairman LAFALCE. I think that they are going to testify next week.

Ms. WILCHER. We are cognizant of the need to bring together the Federal family and the States so people who are trying to do business do not have impossible hurdles to overcome.

Chairman LAFALCE. I have reason to believe that in New York State, for example, we might see some type of moratorium on State action pending Federal clarification. I wouldn't be surprised if we see that within a week or so.

Perhaps that is a model for the Federal Government to follow, too.

Mr. MEAGHER. Mr. Chairman, my name is John Meagher. I am with the Office of Wetlands Protection in EPA. I would add that there hasn't been too much interest in the States in taking over the program.

Chairman LAFALCE. I am not talking about taking over the program, but rather using their own definitional process and their own permitting process.

Mr. MEAGHER. One example is joint processing, where if the State has a program, and it is desirable to mesh it with the Federal permitting program, the procedures are the same. This includes a joint application, and, if there is a need for a public hearing, there will be a joint public hearing. Joint processing is quite common.

Chairman LAFALCE. In how many States do you have joint processing with?

Mr. MEAGHER. I know New York State has it.

Chairman LAFALCE. Is that right? Do you know how many States you have joint processing with?

Dr. DICKEY. Most of them.

Chairman LAFALCE. What does the word "joint" mean, then? So many individuals have come to me and said, "I went to one level of government, and I didn't have any idea that I had to go to the other level of government, and it was only later I found out I needed to."

Dr. DICKEY. Let me ask Michael Davis of my staff.

Mr. DAVIS. Generally, we do have joint permit processing with most States. We have to coordinate with State water quality and the State wildlife agency. The way we facilitate that is through a joint permit application form and a joint public notice, so that in most cases, an applicant is not going to be forced to fill out several different application forms and be subjected to several different public hearings.

Chairman **LaFalce**. What about permit applicants not being subject to separate levels of review and sequential review periods?

Mr. **Davis**. We have guidelines in our regulations in terms of the amount of time the States are allowed under water certification and their coastal zone management process.

Chairman **LaFalce**. It is only after those whose permit applications go to the Federal Government?

Mr. **Davis**. It is a concurrent process.

Chairman **LaFalce**. That may be the theory, but I am not convinced that is the practice.

Mr. **Davis**. It is our view it should be a joint process. We have fairly rigid time lines in our regulations on how we proceed through the permit process. For example, we are required to issue a public notice within 15 days after we receive a complete application. We try to comply with those.

One thing that we do, and we are encouraging now more than ever, is the use of State program general permits. When a State has a program that basically affords the same level of protection of aquatic resources as mandated in the Clean Water Act, we try to avoid duplication by piggybacking their program.

We have one in North Carolina. Maryland is looking into the possible use of one. Essentially, that gets the Federal Government out of a detailed review. We do have some oversight, but we don't have the detailed review we do now. We are encouraging our districts to do that to avoid duplication.

Ms. **Wilcher**. One of the things we are doing, Mr. Chairman, is try to bring together a variety of States—possibly sometime next month—so they can have a comprehensive wetlands plan, similar to a model ordinance, to make things easier for the States and to have some consistency.

We also are working with the Conservation Foundation to develop guidance for States, again to try to help develop wetlands plans and have some consistency.

Chairman **LaFalce**. Give me your thoughts—not as a spokesman for the Bush administration, but your off-the-cuff opinion—don't you think that we should regulate wetlands pursuant to a separate body of law, rather than try to work though the 404 permit process? Section 404 was intended to deal with the dredging and fill-in of waters of the United States. It never really was contemplated to be an authority for dealing with the problem of wetlands in the heart of America.

It evolved that way by judicial interpretation and regulatory promulgation.

Ms. **Wilcher**. Also, Congress, in 1977, amended section 404(g) to include wetlands as part of the waters of the United States. They didn't in 1972 use the word, but Congress did choose to do so in 1977.

Chairman **LaFalce**. Don't you think it would be wiser to deal with the issue of wetlands separately, rather than as part of 404? It doesn't really fit, does it—the type of wetlands we are talking about—with the primary purpose of the original section 404?

Ms. **Wilcher**. Mr. Chairman, we clearly are trying to look broadly as we think about Clean Water Act reauthorization, but I am not sure we are going to be able to develop from scratch something that is a lot better. Maybe we can, but I am not so sure.

If you are going to call wetlands something other than waters of the United States, as they traditionally have been interpreted for the last 20 years, we have the issue of where you draw the line between waters of the United States. There are issues we are clearly open to looking at, but at the same time, I think it is fair to say there is a program——

Chairman **LaFalce**. I know one thing—you don't call many areas now being subjected to regulation in urban America and suburban America "waters of the United States." I think most Members of Congress have a pretty good idea of what you call waters. I think we have gone way beyond that.

Ms. **Wilcher**. Mr. Chairman, I will have to say the program—again, not being an apologist for the program—has had problems, but it has had successes as well. I think we need to recognize the 404 program has done a lot to try to protect the waters of the United States, to try to protect the wetlands, and has had a tremendous amount of success in slowing the decline of the wetlands of this country.

I am not so sure I would be ready to pitch it out the window today.

Chairman **LaFalce**. Some people complain to me that the concept of "no net loss" came out of the blue, that it hasn't been defined very well. Do you think that? How did "no net loss" become a policy, and has it been adequately defined? Is this part of the problem?

Ms. **Wilcher**. "No net loss" was articulated in writing in a November 1988 report by the Conservation Foundation. The Conservation Foundation brought together a group of people from across the country from all different walks of life. There were ranchers, there were environmentalists, home builders, a variety of people who sat down in a consensus building forum that was cochaired by Governor Kean, with Governor Gardner of Washington, and Governor Campbell of South Carolina.

Mr. **Meagher**. Governor Kean chaired it, and Governor Campbell of South Carolina and Governor Gardner of Washington were on the forum.

Ms. **Wilcher**. That group debated for about a year on a variety of wetlands issues and came up with a report that certainly has stimulated the thinking about wetlands and brought a lot of attention to the need to do something to protect wetlands.

Of course, President Bush has, on a number of occasions, stated that "no net loss" should be a goal.

Chairman **LaFalce**. That report was a private sector report, correct?

Ms. **Wilcher**. That is correct. It was a private sector report with funding from Federal agencies.

Chairman **LaFalce**. When did the concept of "no net loss" receive some governmental legitimacy? Everything everybody has been doing has been pursuant to the new "no net loss" policy. When was that promulgated, by whom and when? All of this stems from that concept.

Mr. **Meagher**. The forum was concluding its deliberations at the time the Presidential campaign was under way, and then-candidate Bush expressed support for the "no net loss" goal a number of times during the campaign. After the election, he endorsed it in several speeches, and in the fiscal year 1990 budget message to Congress, he indicated he was establishing that goal for the Federal Government and was setting up a task force to decide what it means and how to implement it.

Ms. **Wilcher**. Since then there has been some legislation that has picked up the "no net loss" goal.

Chairman **LaFalce**. Has it been defined?

Ms. **Wilcher**. I don't think there has been any regulatory or statutory definition at this point.

Chairman **LaFalce**. Would this be helpful in determining avoidance, mitigation, et cetera? Haven't all these efforts been developed to implement "no net loss" as a policy?

Ms. **Wilcher**. Not specifically as a result. As you may be aware, Mr. Chairman, the Domestic Policy Council Task Force on Wetlands is working on the "no net loss" policy.

Chairman **LaFalce**. Let's talk about that. That group is different from this other task force; is that correct?

Ms. **Wilcher**. That is correct.

Chairman **LaFalce**. The task force which you were talking about is your own ad hoc task force. What is this Domestic Policy Council Task Force on Wetlands? Who is head of that? Who is on that task force?

Ms. **Wilcher**. A lot of the agencies of the Federal Government.

Chairman **LaFalce**. Who chairs it?

Ms. **Wilcher**. Teresa Gorman currently is chairing that.

Chairman **LaFalce**. Who is she?

Ms. **Wilcher**. She works on the President's staff in the Office of Policy Development.

Chairman **LaFalce**. OK. Who is on that? Are any of you on it? You are, Ms. Wilcher; you are, Dr. Dickey; and you are, Mr. Moseley. What are they doing?

Ms. **Wilcher**. The task force has other agencies that are on it—the Department of Energy, Department of Transportation—I am not sure I would be able to list them all. It is an administration task force, to talk about, work through, understand, discuss, and debate the "no net loss" policy. That is what the group is doing.

Chairman **LaFalce**. How often has that task force met in the past 6 months?

Ms. **Wilcher**. I can't tell you a specific number of times.

Mr. **Moseley**. Numerous times.

Ms. **Wilcher**. More than 10, and probably less than 20.

Chairman **LaFalce**. It is an active task force. Well, now, you said that your own task force was going to try to come up with something to submit to your higher level of review within about a month—you did, Dr. Dickey. Is what you are doing part of what this other task force is doing, the one headed by Ms. Gorman, or is it separate?

Dr. DICKEY. We have two—shall we say separate. One is the revision of the wetlands delineation manual. It remains to be seen how final administration approval of that document will occur.

Chairman LAFALCE. Is that something the Domestic Policy Task Force——

Dr. DICKEY. It may very well.

Chairman LAFALCE. In these 10 to 20 meetings which have taken place within the last 10 months or so of the Domestic Policy Task Force, have they discussed changes in the delineation manual?

Ms. WILCHER. The delineation manual has been mentioned as have most other issues involving wetlands. As far as I understand, there has not been a decision made by the task force whether it is going to review, or approve, or get involved in the final revisions of the delineation manual.

Chairman LAFALCE. What have the primary issues been on this task force on wetlands over the past 6 months?

Ms. WILCHER. Well, I think, Mr. Chairman, the issues—the type of issues you heard expressed by Members of Congress, the type of issues the American public are concerned about and are discussing. How do we have a wetlands program that does protect the wetlands of this country? How do we make sure it is something that the public——

Chairman LAFALCE. Are there minutes kept?

Ms. WILCHER. I have not seen minutes.

Chairman LAFALCE. Does anyone know if there are minutes kept?

Mr. MOSELEY. I do not.

Chairman LAFALCE. Does it—this Domestic Policy Task Force on Wetlands—exist pursuant to any written document or order? Does it have a defined mission, and does it have a defined mission as of any certain date, to any of your knowledge?

Dr. DICKEY. There is a commissioning document. With regard to that document, there are no established dates, or deadlines, or whatever.

Chairman LAFALCE. One of the problems we have is that we can't get people from the White House staff to come in and testify, as a matter of policy. We must rely on representatives from the different agencies; and yet, very often, it is the White House which makes the decisions.

Mr. MEAGHER. Mr. Chairman, if I could add——

Chairman LAFALCE. I am advised by my staff that, although we made repeated phone calls to Ms. Gorman, she failed to return any of the phone calls from this committee. You might apprise her of that.

Are any of you considering the possibility of establishing mandatory training and certification programs for private consultants who perform wetland delineations? Has that come up?

Dr. DICKEY. Yes; in the recently enacted Water Resources Development Act of 1990, we are given authority to do that, and we are exploring that right now. So, yes; it is a question of funding.

Chairman LAFALCE. From what I understand, there is a wide variety of expertise in the private sector on this; and I have been told that part of the problem is that some individuals go to some consultants who have no idea of what they are doing. There is now no way of determining which consultants know what they are doing and which ones don't.

Dr. **Dickey**. We have this new authority, and we are exploring the implementation of that.

Chairman **LaFalce**. We could go on at great length, and we will in the future, but not this morning. This has been the first Washington hearing on this issue; and, again, I am only trying to serve as a catalyst for action with the agencies and the committees of legislative jurisdiction and Congress. But I want to make sure that the concerns of the small business community, which this committee has a responsibility to represent, are heard at the table; and in order to do that, we will have continuing personal, private, and public dialogue.

Thank you very much.

[Whereupon, at 12:00 noon, the committee was adjourned, subject to the call of the Chair.]

EFFECTS OF WETLANDS PROTECTION REGULATIONS ON SMALL BUSINESS

WEDNESDAY, FEBRUARY 6, 1991

House of Representatives,
Committee on Small Business,
Washington, DC.

The committee met, pursuant to notice, at 9:00 a.m., in room 2359-A, Rayburn House Office Building, Hon. John J. LaFalce (chairman of the committee) presiding.

Chairman LaFalce. The Small Business Committee will come to order.

The purpose of our hearing this morning is to further discuss the Federal wetlands regulatory program and, in particular, the problems which this regulatory process pose for small business.

This is the third such hearing I have conducted within the past 3 weeks. The first of these hearings was held in Lockport, New York, a municipality in my congressional district. At that hearing, I heard from a number of my constituents who were facing personal hardship and economic ruin as a result of current wetlands policy.

In my district there are several towns and municipalities that, as a result of unreasonable and inflexible Federal regulations, have upwards of 65 percent of their land subject to the Corps of Engineers' permitting process. If one were to divide the two largest counties in my district into 100-acre parcels, 95 percent of that land would be subject to the permit process. The 6- to 8-month average delay in the granting of Corps permits, coupled with the 4-month winter dormancy period in the Western New York area, has had a devastating impact on economic development. The small business community, particularly those involved in the real estate, homebuilding, construction, and related industries have been especially hard hit.

For banks and other financial institutions which finance real estate development and construction projects, current wetland regulations create yet another set of environmental risks to consider when making loans. Because the presence or possible presence of wetlands on a property can significantly affect the ability of a borrower to complete a project on schedule or to repay a loan, many banks now require, as a condition to closing, a wetlands determination and approval by the Corps of Engineers to proceed with the project.

Because the presence of wetlands can dramatically depreciate the value of land held as collateral, banks may decline to make loans based upon Corps reports. This not only increases the number of applications submitted to the already backlogged Corps district offices, but also contributes to the credit crunch presently affecting the entire country.

Last week in Washington, I held the second of these Small Business Committee hearings. The testimony gathered at the January 30th hearing made it obvious that the concerns plaguing my congressional district were in no way unique. The problems posed by the Federal wetland regulatory regime are truly national in scope.

Testifying last week were Members of Congress representing such diverse States as Louisiana, Pennsylvania, Georgia, Wyoming, Ohio, Michigan, New Jersey, Alaska, California, Nevada, Virginia, Massachusetts, Maryland, Kansas, Colorado, and New York; and if we had time to go to every Member who has wetlands problems, I am sure we would have had every State represented.

While the geographic areas may have differed and the concerns varied, one constant shone through: Federal wetland regulations are not only overburdensome on the individual, but they are also hampering development across this Nation. It was nearly the consensus that there must be a balancing between environmental objectives and private property rights. As it stands now, the system is totally out of whack.

According to the testimony of Congressman Bill Clinger, "The Federal wetlands regulatory regime has had the practical effect of a confiscation of property. It has driven land values down so low as to render any investment worthless."

To paraphrase the testimony of Representative Jimmy Hayes, if the U.S. Government were to propose a Federal land use policy, public outrage and demands for a legislative solution would abound. However, what is essentially a land use policy has been allowed to prevail under the guise of Federal wetland protection.

Our existing wetlands program not only suffers from misguided policies that unduly restrict individual property owners and small businessmen, it is overzealous in its application. Wetland protection does not need to be extended mechanically to marginal wet areas which may have no important functions and values, and certainly not to dry areas which simply fall within the artificial parameters of some Federal delineation manual. Yet, this is precisely what is happening.

There is no question that true wetlands are important. They should be preserved. Wetlands are important public resources which temper floods, protect water quality, and sustain the food chains upon which our recreational and sport fisheries are based. They serve as nesting and rearing areas for waterfowl and wildlife and are the last strongholds for many threatened, endangered species.

These high-quality resources need to be regulated and protected. However, when we hear about cases such as those articulated by one Member, in which a landowner in Louisiana was forced to cut down a grove of 200-year-old cypress trees in order to raise funds after Federal wetland regulations made his property unsalable, it becomes astonishingly clear that the Federal agencies' blind adherence to placing wetlands protection above all else has not only jeopardized the economic base of many communities, but has adversely affected equally important natural resources.

The Federal delineation manual, implemented in March 1989, lacks rationality, flexibility, and predictability. At last Wednesday's hearing, EPA, Corps of Engineers, and Department of Agriculture witnesses conceded that mistakes were made in the development of the Federal delineation manual and that jurisdiction was perhaps expanded beyond that originally intended.

Efforts are under way to address some of the concerns expressed by Members of Congress and the regulated public. In fact, I have been told that the manual itself is now in the process of revision. But I don't know how long this revision is going to take or what form it will take.

While I commend these efforts, a more immediate solution is warranted. Once again, I call upon those Federal agencies principally responsible for our current wetlands policy to initiate a moratorium on the use of the 1989 Federal delineation manual until such time as there can be a convening of interested parties and some consensus approach can be fashioned.

Businesses must have a predictable and flexible set of rules to follow. Without such rules, no one benefits. Regulatory burdens and delays can be exceedingly costly for small businessmen, for whom time is often money. Regulatory overkill can lead persons who would normally comply with environmental protection measures to simply throw up their arms in absolute despair.

As I have emphasized, the problems resulting from Federal wetlands policy require a rational and balanced solution. We need a land use policy which includes wetlands, not simply a wetlands policy which gives little consideration to all other conceivable forms of land use.

For that reason, I have invited national business and environmental organizations to testify before the committee today, and additional groups have asked to provide testimony for the record.

[The additional statements may be found in the appendix.]

Chairman LaFalce. Hopefully, they can help us sort out some of these problems.

I have divided this into two panels. But before I call on the first panel, are there any members who have opening statements they wish to make?

Mr. Lancaster.

Mr. Lancaster. As the testimony indicated last week from a number of Members of Congress who are, in fact, avid hunters and fishing enthusiasts, there are those of us who have real mixed feelings on the subject because we want to protect the fragile nurseries and habitat for our game and marine life that we are so dependent on to enjoy those things. But at the same time, we have to consider, as you have indicated in your statement, a balancing of those interests.

I think one of the things that the supporters of a very strict wetlands policy should consider is that in their zeal for a wetlands policy, that can, in fact, be so crippling to investment that they may lose public support, that they may in the end live to regret that they have taken such a very strict position; because if public support is lost for a reasonable wetlands policy, then they may find that those habitats that they wish to protect are not protected as the public support does evaporate, and that, in fact, by pushing too far and too hard for a wetlands policy that is not reasonable, that they actually result in a counterproductive policy.

So, I hope ~~that as~~ we look at this policy, we can recognize the importance of balancing the interest of those important habitats as well as the interest of property owners who do have a legitimate concern about the use of that property.

Chairman LaFalce. Thank you.

Any other opening statements?

We will keep the record open for opening statements of other members.

[Mr. Bilbray's and Mr. Ray's statements may be found in the appendix.]

Chairman LaFalce. With that, we will hear from the first panel. We have the prepared testimony of all the witnesses, and the prepared testimony will be put in the record in toto.

Because we have two panels with six witnesses per panel, I would like to confine you to somewhere between 5 minutes, if that is your desire, but no more than 10. If you can accomplish that by reading your testimony, fine. If you would prefer to summarize your testimony because the entirety of it will be in the record, that is fine, too. Of course, my experience has been that individuals frequently take longer to summarize their testimony than they think. That is my tendency, too.

The members of our first panel will be Ms. Patricia Campbell-White, the chairperson of the Subcommittee on Energy, Environment, and Development, for the National Association of Realtors. She will be testifying on behalf of the National Association of Realtors.

My second witness will be Mr. Mark Tipton, who is president of the National Association of Homebuilders—and I think this is your first testimony as president of the national association, is it not? Yes. In addition to being president of the National Association of Homebuilders, he is chairman of the National Association of Homebuilders' Wetlands Task Force, which I think is some indication of the importance attached to this issue.

Then we have Mr. Robert Bostic, representing the Associated General Contractors of America.

Mr. Steve Moyer, legislative representative for the Fisheries and Wildlife Division of the National Wildlife Federation, who—and I think is very important—will give us an environmentalist's perspective on not only the importance of wetlands but on his perception of the reasonableness of the regulations.

Then Mr. Ace Parker, representing the Forest Industry Wetlands Task Force. As we will hear, this is made up of a good many individuals and institutions and associations such as the National Forest Products Association, the American Paper Institute, et cetera.

Then our cleanup witness on this panel will be a constituent of mine, Mr. Frank Ciminelli. He will be testifying as the representative for the National Association of Industrial and Office Parks.

So, with that, let us hear from our first witness, Ms. Campbell-White.

TESTIMONY OF PATRICIA CAMPBELL-WHITE, CHAIRPERSON, SUBCOMMITTEE ON ENERGY, ENVIRONMENT AND DEVELOPMENT, THE NATIONAL ASSOCIATION OF REALTORS

Ms. CAMPBELL-WHITE. Good morning, Mr. Chairman. We appreciate the opportunity to present our comments on behalf of the National Association of Realtors on the detrimental effects of this regulation.

I have been a realtor for 17 years and for over 8 of those years have been involved in our environmental monitoring programs and have worked for 5 of those years as chairman of the Citizens Committee now within the confines of the estuary program as funded by Congress' 1987 Clean Water Act. It is in my position as chairman of the Energy, Environment, and Development Subcommittee of the Realtor's Legislative Committee that I submit my comments this morning.

The national association is comprised of more than 800,000 members involved in all aspects of the real estate industry. Of that number at least 85 percent are considered small businesses, that is, they employ 20 or fewer full-time associates.

We thank you for holding this series of hearings so early in the 102d Congress, and for focusing attention on the fact that real people are being hurt by existing wetlands laws and regulations. It is easy to forget that when Federal policy is decided on high, it eventually reaches down to affect the everyday operation of millions of American businesses. However, as you showed in your real fight against another case of regulatory overkill, the section 89 IRS rules, Federal policy can sometimes be overturned by persistence and a good commonsense approach.

Our concerns with Federal wetlands policies can be expressed by two simple concepts: Uncertainty and protection of private property rights. I will briefly try to explain for you what each of these mean for our members.

In 1989, when the representatives of the Army Corps of Engineers, Environmental Protection Agency, Soil Conservation Service, and Fish and Wildlife Service met to develop the new Federal Manual for Identifying and Delineating Jurisdictional Wetlands, their goal was to bring some consistency to the definition and regulation of wetlands. Unfortunately, as time has shown, their work has created far more uncertainty as to just what is a "wetland" than previously existed.

In the business world, especially for those of us classified as small businesses, "uncertainty" is a four-letter word. Since the chairman and many members of this committee also serve on the Banking Committee, I don't need to tell you that lenders don't like uncertainties when trying to decide whether to lend money to someone wishing to purchase property or to borrow money to develop property they already own.

Uncertainty leads lenders to say "No" or to charge higher interest rates on purchases or projects they feel are speculative. This is especially true these days in light of the downturn in the real estate market and the lingering cloud of the savings and loan crisis.

Access to capital for land and home acquisition and development of new homes is the life blood of our industry, of the gentlemen sitting on the panel this morning with me. At a time when we are already facing other economic and regulatory barriers to affordable housing in our Nation, we certainly do not need the unnecessary burdens caused by Federal wetlands regulations added to the mix.

We believe that a standardized definition should be established to eliminate the confusion as to just what is a wetland. It is imperative that a clear-cut definition be developed, not only to relieve regulatory confusion, but also because it would allow areas that are truly wetlands to be properly delineated as such.

We are adamant that it be developed by extensive public input. Perhaps if the current regulations had been developed with public participation, rather than by four Federal bureaucracies behind closed doors, we wouldn't be sitting here in this hearing today.

We disagree with the Government's policy that all wetlands are created equal. The National Association of Realtors hopes that any new Federal policy will provide for a classification system for wetlands.

We agree that the most environmentally sensitive and useful wetlands should be protected for all the reasons you enumerated, Mr. Chairman, in your opening statement. They are vital. However, current Federal policy lacks the flexibility to differentiate between vital wetlands and lands which serve a marginal environmental purpose.

We certainly hope that any legislative solution which Congress formulates will include some form of prioritization or ranking so we can protect the most valuable of our wetlands, while allowing private land owners of less ecologically sensitive properties the right to develop those lands as they see fit within the local parameters.

I just returned from a week's worth of meetings in San Antonio with the National Association of Realtors and flew directly here yesterday. One of our members shared one of those zillion horror stories you have talked about many times. Starting an investment of a shopping center, he was unable financially, or for whatever reason, to follow through. Basically, he had done some minor excavation, just pushing around dirt; and when the financing fell through, and he decided not to go through with the construction, he went to put the dirt back where he found it and was stopped. He was told, "That is a wetland. There is water in that hole. You can't do that; you need a permit to put that dirt back where you found it." That was quite upsetting.

Another uncertainty in the current permitting process is the tremendous delays caused by overlapping jurisdictional and bureaucratic redundancy in the system among Federal, State, and local agencies.

A Calvert County land owner in Maryland shared with me the problems he had in trying to create home sites. He has now been bounced back and forth between Federal and State agencies for over 4 years; these delays cost time and money. This bureaucratic quagmire of complex, confusing, and often differing Federal regulations either delays development or, in some instances, serves as a deterrent for property owners to utilize their lands at all.

In some areas of the country, this reluctance to develop lands that are potentially classified as wetlands have made property in nonwetland areas all the more valuable and artificially driven up the price of those lands and skewed property values in affected areas.

Our association feels that governmental entities should be restricted as to the length of time it takes to make a determination, if the land is indeed a wetland, or to issue a permit. Decision delays affect not only funding availability, but also add to the price of housing which is ultimately passed along to the American consumer and the American homebuyers.

In one case, one of our realtor members has been waiting over 8 years to collect her payment for involvement in a $1.9 million sale for 15 acres in a proposed marina development. In the famous Loveladies Harbor case, that plaintiff there has been involved in bureaucratic wrangling and litigation for 15 years, and that case isn't finished yet.

The Federal Government has until mid-February to decide whether to file an appeal; 15 years!

Over 70 percent of our Nation's wetlands are owned by private citizens. Therefore, our comments extend beyond the immediate interests of real estate and encompass the larger issue which you have raised already, protecting private property rights.

We strongly believe in the fundamental right of all property owners to determine the highest and best use of their land. Every person should have the right to acquire and use real property with the confidence and certainty that the value of their property will not be unduly diminished or jeopardized by Government action at any level without the owner's expressed consent.

The National Association of Realtors believes that Government should not, through the permitting process, be allowed to engage in any activity which results in the taking of a property without compensating the affected property owner.

As is evident from the recent *Loveladies Harbor* v. *United States,* it may result in a taking; and the lower court, in fact, awarded just compensation as mandated by the Fifth Amendment. That compensation that has been awarded by the court for a little 12 acres in New Jersey is in the neighborhood of $2.7 million, and that little 12 acres with interest could cost the Federal Government about $5.5 million.

In order to avoid these instances in the future, the Federal Government should adopt a policy that does not result in the taking of private property. In cases where a permit denial has resulted in a de facto taking, we feel an affected property owner should be compensated for his loss by the Government.

Our policy statement, which is in our summarized written statement which we submitted, says we recognize the extreme environmental significance of wetlands and believe that any wetland legislation and regulation should incorporate five concepts.

A standardized definition for a wetland, including hydrophytic vegetation, hydric soils, and hydrology.

A clearly defined permitting process which includes all governmental authorities thereof. Let's get them all in one room, singing off the same sheet of music. This is aggravating.

The creation of a priority ranking system to identify areas that are most essential for acquisition. I will tell you, a wetland is real valuable until the Government tries to pay you for them. As soon as it comes time to put money where the mouth is, it is not worth a lot.

A further requirement that all authorities with regulatory powers notify State and county governments, local media, and affected property owners.

Last, the use of mitigation banking.

Mr. Chairman, again we thank you for holding these hearings and allowing me on behalf of the National Association of Realtors to participate. We look forward to continued opportunities to work with you on this committee on a subject of vital interest to our members, and we will be happy to answer questions at any time.

[Ms. Campbell-White's statement may be found in the appendix.]

Chairman LaFalce. Thank you very much.

Our next witness is from the great State represented by Mr. Lancaster, North Carolina, Mr. Mark Tipton.

TESTIMONY OF MARK TIPTON, PRESIDENT, THE NATIONAL ASSOCIATION OF HOMEBUILDERS

Mr. Tipton. Thank you, Mr. Chairman. Good morning to the other members of the committee.

On behalf of 157,000 member firms of the National Association of Home Builders [NAHB], I am pleased to have the opportunity this morning to address the issue of wetland policy and its effect on our Nation's small businesses. My name is Mark Tipton, and I am president of NAHB.

First, I would like to thank the chairman for his dedication to our Nation's small business people and for his leadership in organizing these hearings on wetlands. This is truly a small business issue that impacts economic development and jobs in communities across America.

NAHB is made up of small business people with over half of our members building fewer than 10 homes per year and close to 75 percent of our members building 25 or fewer homes. They mostly are small business people who understand the true impact of uncertainty, delay, and excessive costs associated with the wetlands permit program.

Now, let me say at the outset that the National Association of Homebuilders and myself recognize the importance and value of our wetlands, and we want to protect our wetlands and our environment. But there needs to be balance, as the chairman's opening statement reflected and Mr. Lancaster reflected.

While two Federal agencies are spinning their wheels regulating fill activities, over 80 percent of the wetland losses in this country go unregulated. Meanwhile, the housing and construction industry, who shoulder a disproportionate share of the regulatory burden, must wait up to 9 months in some Corps districts for jurisdictional determinations, only to learn that the Corps' permit can be withdrawn by an EPA veto. Furthermore, the Federal Government extends the same resources to protect swamps and marsh areas as it does to protect wetlands of small function.

Mr. Chairman, it is time to examine our wetlands policies and overhaul the system and provide true balance. We specifically recommend to Congress that we need to transfer all wetland permit authority to the Army Corps of Engineers.

Second, we would like to exclude from regulations all land areas which fail to meet a strict three-parameter definition of wetlands.

Third, we would like to focus wetland protection on our Nation's most valuable wetlands by classifying all wetlands into three categories and provide regulatory protection accordingly.

Fourth, we support compensation to property owners who own wetlands in the highest category of critically significant wetlands.

Mr. Chairman, it is important to note that the problems and excessive cost of the wetland permit program affect more than just homebuilders. As a matter of fact, in Amherst, New York, someone recently stated that, "municipalities are going to be virtually shut down if they are not already, and it is going to put people out of business."

In Clarence, New York, the town engineer, Joseph Latona, talked about their small community losing over $300 million in assessed value because of the new wetland delineation manual. He further stated that, "the tax revenues loss would exceed $9 million a year. Major projects have stopped. It is paralyzing the economy."

The ultimate injury is to the working families and future homebuyers facing higher housing costs. For them, the great American dream of homeownership takes a step backwards, and as additional engineers and botanists are retained, delay and uncertainty increases financing costs.

The wetland permit program is clearly a key factor threatening affordable housing in this country. In my formal statement, I address some of the specific problems homebuilders experience, including the Jurisdictional Delineation Manual and the MOA on mitigation.

However, I wanted to take a few remaining minutes to relate two actual case studies that are examples of the problems small business people are having across this country. In my home State of North Carolina, in 1985, a builder purchased 27.7 acres of land with 5 acres of wetlands, of which he wanted to disturb only 61,000 square feet. It took 4 years and thousands of dollars before this developer was able to break ground.

In his case, he encountered problems with the 404 regulatory process and then having his Federal permit lapse as the local government took more than 2 years to issue a permit. His project was delayed by the new delineation manual and MOA.

In this case, the homebuilder did not want to destroy wetlands. Quite the contrary; he wanted to maintain them for their aesthetic benefits for the project. But for the project to proceed, he needed a Corps permit to place fill in several small wetlands, individually barely bigger than the span of his arms.

In another case, a family business wanted to expand their retail supply storage areas. In this case, the coordination among local, State, and Federal permits resulted in a regulatory nightmare.

Initially, the builder wanted to fill approximately 27,000 square feet of wetlands and offered to mitigate the damage by constructing 32,000 square feet of wetlands adjacent to a national wetland.

The permit was denied by the State. He later requested a permit to fill 4,700 square feet with a 6000 square feet mitigation plan, also adjacent to a natural wetland. This permit was approved by the State but denied by the Corps.

Eventually, a third permit request was approved after he hired three engineering firms, waiting 4 years, and incurring over $173,000 of legal and engineering expenses.

Mr. Chairman, changes are needed in the 404 program to end the confusion and unnecessary regulatory cost. We need legislation to place all permit authority with the Corps.

We need to require the clear evidence of all three wetland parameters—soil, hydrology, and vegetation for an area to be classified as a wetland. We need to focus wetland protection on our Nation's most valuable wetlands by classifying all wetlands into three categories and providing regulatory protection accordingly.

Finally, we need to compensate property owners who own the highest category of critically significant wetlands.

Mr. Chairman, as I stated at the outset, the NAHB and myself recognize the importance and value of wetlands. We want to protect our wetlands and environment. But let us have a balanced system to recognize the value and the function of different wetlands and protect them accordingly. Let us have a system that recognizes that 75 percent of all wetlands are found on private property. Let us have a system without uncertainty, delay, and excessive cost.

Thank you very much for this opportunity to share these comments with you, and I would be very happy to answer any questions that you might have.

[Mr. Tipton's statement may be found in the appendix.]

Chairman LaFalce. We will refrain from asking questions until all the panelists have given statements.

Our next witness will be Mr. Robert Bostic of Virginia. Virginia, of course, is ably represented by Congressman Sisisky, Congressman Olin, and Congressman Slaughter on the minority side, who is not with us right now.

Mr. Bostic, we are delighted to have you.

TESTIMONY OF ROBERT BOSTIC, REPRESENTING THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA

Mr. Bostic. Good morning, Mr. Chairman. I am a vice president for Forterra Corp., Norfolk, Virginia. With me today I have Stuart Benstock of the National Association of AGC. You have before you my written statement.

In addition, I would like to submit for the record at this time AGC's December 10, 1990 letter to the Corps of Engineers, referenced in my written testimony, which discussed our option to the Corps of Engineers' proposal to increase fees for regulatory services.

I would also like to submit a number of charts and graphs I have prepared for this committee which outlines the economic impact of wetlands regulations on southeastern Virginia.

[The submissions may be found in the appendix.]

I am testifying today on behalf of the Associated General Contractors of America [AGC]. AGC is a national trade association of more than 32,500 firms, including 8,000 of America's leading general contracting firms, most of whom are small businesses. They are engaged in the construction of the Nation's commercial buildings, shopping centers, factories, warehouses, highways, bridges, tunnels, airports, water works facilities, waste treatment facilities, dams, water conservation projects, defense facilities, multifamily housing projects, and site preparation/utilities installation for housing development.

AGC welcomes the opportunity to present its views on the impact of wetlands laws and legislation, particularly as it may affect the small business community. Small, family-owned businesses, of which my company is one, continue to dominate the construction industry; and AGC, therefore, appreciates the Small Business Committee's consideration of this legislation from a small business perspective.

The Commerce Department's 1987 census of construction industries identified 536,000 construction establishments. The census also revealed that a vast majority of these establishments are genuinely small by anyone's standard. The census reflected that as of 1987, 99 percent of these establishments in the construction industry have annual receipts of less than $10 million.

AGC recognizes the importance of wetlands to the Nation's environment, and supports a national policy which would lead to the conservation of those wetlands areas, which add significantly to environmental enhancement. However, a national wetlands strategy must strike a reasonable balance between protecting valuable wetlands and meeting the economic and social needs of our Nation.

The administration's goal of "no net loss" of wetland must take into account the need for reasonable residential and commercial investment. AGC urges Congress to prevent wetlands policy from becoming a de facto policy of no new growth. Such a policy would have a devastating impact on our economic viability of many local communities and ultimately the Nation.

Recent actions by the Federal Government regarding wetland preservations highlight the need to ensure this balance. The Federal manual for identifying delineation of jurisdictional wetlands and the memorandum of agreement between the U.S. Environmental Protection Agency and the Army Corps of Engineers were both prepared in an effort to provide consistency in the administration of Federal wetlands policy. All parties involved in the development of these documents have stated that their objective was uniformity in decisionmaking rather than implementing a "no net loss" policy.

Despite these assurances, these two documents have already resulted in significant restriction on development. Based on the definition of soils, plants, and hydrology contained in the delineation manuals, 80 percent of Hampton Roads' geographic area is designated as wetlands. In addition, an area that is wet for as little as 1 week each year can be designated as wetlands. Other wetland areas that are of little or no ecological value have been protected.

Many of these definitions in the manual are very broad, allowing for subjective interpretation, such as the terms hydric soil and hydrophytic vegetation which, when these two factors are combined, are 80 percent of all land in the Hampton Road area.

To make matters even worse, neither the Federal manual nor the memorandum of agreement between the EPA and the Corps of Engineers were subject to public comment or review. The social and economic impact of "no net loss" policy, which is allowed to be administered as a no new growth policy, is significant. Such a policy would lead to the deteriorating infrastructure, unaffordable housing, decreased community tax base, and no new employment opportunities.

Coupled with Federal cutbacks to State programs, the present economic slowdown, the banking industry's new lending policy, it will lead to the highest unemployment figure seen in years.

As you know, H.R. 5968, the Wetlands Conservation and Management Act of 1990, was introduced at the end of the 101st Congress. AGC believes this legislation addresses a number of issues we have raised in our testimony; and we hope this legislation, when it is reintroduced, will be given careful consideration by the 101st Congress.

AGC has considered a number of issues and options regarding wetlands policy. We urge Congress to consider these issues also and transfer all authority for wetlands pursuant to section 404 to the Army Corps of Engineers.

Exclude from regulations under section 404 of the Clean Water Act all lands which currently fail to meet the strict three-parameter definition of wetlands.

Exclude from wetlands protection programs all man-made wetlands created by investment act activities on uplands and any wetland once converted to farmlands.

Oppose any attempt to extend protection of wetlands areas by imposing buffer requirements.

Encourage Federal, State, and regional research and planning to identify the true source and cause of wetlands losses and to direct regulatory attention toward those sources and causes.

Adopt a standard definition of wetlands that is based on the presence, at the time of delineation, of the three parameters of hydric soil, hydrophytic plants, and hydrology that gives due consideration to the physiographic characteristics by regions, thereby reducing negative impacts to potential development.

The mapping and inventory of all wetlands by the U.S. Army Corps of Engineers, by reason of potential impact on the local economies.

The Federal Manual for Identifying and Delineating Jurisdictional Wetlands—this manual should be withdrawn and reissued as required under the Administrative Procedure Act.

Provide for the compensation of property owners whose land is taken or whose property value is substantially diminished by wetlands protection policy.

Authorize mitigation banking for the purpose of complying with section 404 of the Clean Water Act.

Eliminate the sequencing requirement for land developments activities which affect all but the most valuable wetlands.

Adopt a system of classification of freshwater wetlands that distinguish wetlands based on their value and protecting the quality of water supply and their role in sustaining endangered species.

Delegate section 404 authority to the States upon adoption of a State wetlands conservation plan, with Federal oversight limited to an annual review of State programs.

AGC thanks the Small Business Committee for affording us this opportunity to testify on this issue of vital importance to our Nation and its environmental and economic well-being. Both environmental and economic consideration must be contemplated when debating this issue. Only then can we meet a proper balance between reasonable and effective regulation of our national wetlands.

Mr. Chairman, this concludes my statement. I will be glad to respond to any questions.

[Mr. Bostic's statement, with attachment, may be found in the appendix.]

Chairman LaFalce. Thank you very much. You did not go into the Corps of Engineers' proposal to increase its section 404 permit-related fees drastically, tremendously, by some 2,000 percent or so. We won't have time now, but we will go into that later. We will not let that happen.

Our next representative is Mr. Steven Moyer, the legislative representative of the Fisheries and Wildlife Division of the National Wildlife Federation. Somewhere behind him he also has Ms. Jan Goldman Carter, counsel, and Mr. Jay Scott Feierabend, director of the Fisheries and Wildlife Division, should their assistance be needed. But we will first hear from Mr. Moyer.

TESTIMONY OF STEVEN MOYER, LEGISLATIVE REPRESENTATIVE, FISHERIES AND WILDLIFE DIVISION, NATIONAL WILDLIFE FEDERATION

Mr. Moyer. Thank you, Mr. Chairman.

The National Wildlife Federation is deeply appreciative of having the chance to speak to you today.

Section 404 has been among the highest priorities of the National Wildlife Federation. In particular, we have been involved in section 404 since its inception. It has been a hard program to love, but somebody has to do it, so the National Wildlife Federation is trying the best it can to do that.

We have a variety of members. We have hunters, anglers, and just plain old nature appreciators and concerned citizens; and I can assure you that their interest and desire to conserve wetlands is increasing each year.

With our strong interest in 404, it should be no surprise that we are deeply troubled and concerned about the problems that we are hearing about again today, and some of the proposed solutions to them. But we, too, seek to find rational solutions to these problems; and some of those solutions are recommendations, and are things that I will mention today.

After hearing what was said at the last hearing, though, and before I go into those solutions and talk about the manual and the mitigation agreement, I felt it was necessary to outline a little bit of the history of 404, not the whole history, because obviously we would be here for the next 2,000 years if I recited the history of 404, but just some background and perspective which we think is essential to understanding where we are coming from on this issue.

Before I do that, I wanted to lay out what is at stake, though, and remind everyone that not only do these wetlands provide a variety of functions and values which some of the members—actually, all of the members—have related in their statements, but that they are also very important, very directly important to many small businesses around this country.

In my testimony, I included some figures that have been derived from a recent fish and wildlife survey that talked about the real value to many small businesses, be they the sport fish industry or commercial fish industry, the sporting arms industry, or the growing industry that provides equipment, and bird seed, and things like that for people who just like to watch wildlife, much of which is dependent on wetlands. Also, I call attention in my testimony to the other very demanding and real issue that Congress should be addressing, which is the continued loss of wetlands in this country, and the need to do something more about them.

Along with the functions and values of wetlands, go the loss and the very real impacts that are felt on a variety of very important things in this country as these wetlands continue to be lost. A recent survey of the Fish and Wildlife Service called attention to the fact that about 60 acres of wetlands have been lost per hour over the course of the last 200 years. But some States have lost 90 percent of their wetlands; and a State like New York has lost 60 percent already; and in some particular areas of those States, such as along the lower Great Lakes area of New York, Pennsylvania, and Ohio, there continues to be 20,000 acres of wetlands lost each year.

So, now we come to the problem of what to do about that loss. Congress has done a good deal already. Commendably, even in the last session of Congress, there were a number of very important statutes that were passed; and many of you, I know, were involved in cosponsoring and advocating those statutes—things like the Coastal Wetlands Protection Act, wetlands provisions of the farm bill, and also the Water Resources Development Act which was mentioned last week as having a number of wetlands provisions in it.

Those are good things, but we can't move ahead or move forward on wetlands protection in this country unless we have a strong, complementary, smooth-running regulatory program. We can't do things like restoring wetlands in Louisiana on one hand and allowing their continued destruction on the other hand in another place.

To get to the controversy that surrounded 404 since its inception, ironically, the biggest controversy has been whether the Corps has been required to regulate wetlands at all. This is a controversy that began immediately after the 1972 passage of the act. The Corps intransigently, throughout the entire 20-year history of this act, has tried to avoid its responsibility for regulating wetlands; and I listed in my testimony a number of lawsuits that we and others have been involved in to get the Corps to do what we believe it was legally mandated to do.

Exercising jurisdiction in wetlands is not the only thing that has been a problem for us. The mitigation requirements of the law, enforcement of the law, and a number of other aspects have been poorly implemented by the Corps; and we and others have spent a lot of time and effort trying to get them to do a better job.

I bring this out to tell you that we have felt very intensely the frustration about this program that you and some of your constituents are feeling right now. But I also bring it out to say that we believe that the innovations of the last 2 years, which are getting so much criticism right now, are positive steps forward that attempt to address some of these longstanding controversies.

Now, I will get into those.

Chairman LAFALCE. Let me just clarify a few things. You were making a point on something which I knew, but which I think deserves clarification, that for the longest time the Corps said that section 404 has nothing to do with wetlands. You brought lawsuits trying to get them to interpret section 404 to apply to wetlands. Is that correct?

Mr. MOYER. That is correct. That is right.

Chairman LAFALCE. It wasn't until 1977, in an amendment to the Clean Water Act, that in defining waters, there was some definition that, amongst other waters, wetlands should be included. Is that correct?

Mr. MOYER. Not exactly. The Corps had begun to regulate wetlands before 1977 because——

Chairman LAFALCE. A Corps' decision, so Congress followed suit.

Mr. MOYER. Right.

Chairman LAFALCE. Do you recall if there was much debate about that at all, or was it one of those things, as is frequently the case, which was just included because the Corps had already made a ruling?

Mr. MOYER. There has been considerable debate on that issue.

Chairman LAFALCE. On the Floor of the House of Representatives? On the Floor of the Senate? Do you recall?

Mr. MOYER. Over the course of 1972 to 1977?

Chairman LAFALCE. I am talking about at the time of the passage of the 1977 legislation.

Mr. MOYER. I don't know about the debate that occurred.

Chairman LAFALCE. Because the only quote you have is from a committee report, as opposed to any floor debate. I don't know the answer to that. I don't recall it personally, but I wasn't involved in it in 1977 at all.

Mr. MOYER. Wetlands were included in 1977, explicitly.

Chairman LAFALCE. I understand that. But it was only one word. We passed legislation with a hundred-million words over the course of a year.

Sometimes we are not too sure exactly what all those words are. Sometimes we are; sometimes we are. I just don't know the legislative history of it at this point in time. The only thing I have ever seen quoted has been report language.

In all candor, I think that the committee records should be given de minimis consideration because more often than not, the only one who has read the report is the one who has written it.

Please continue.

Mr. MOYER. I will get straight to the manual and the meat of the matter, because I think that is important for your consideration. Again, in the beginning of the statement about this manual, I recognized or called attention to the controversy that has long existed over where to draw the line.

This has been one of the most fundamental disagreements about this program. Again, we have been involved in trying to force the Corps to follow the regulation on wetlands, and the Corps has not done a good job throughout the course of its history.

That has led to the call by both the regulated community and us for some uniform set of standards and procedures that delineate wetlands, that draw the boundary. This has been another long-term controversy.

We had hoped—and we thought that when the agencies finally got together and conceived the manual—that this one particular part of a very controversial program would be laid to rest; but, obviously, it is not.

What we think is important about the manual and why we generally support it as a positive step is that it is scientifically and technically defensible in our eyes.

It is a technically accurate interpretation of the wetlands regulation; and, therefore, the changes that are being suggested for it are a deep concern to us because they compromise the technical accuracy—the technical validity of the manual.

So, the technical and scientific basis for the manual is a key thing for us.

We are willing to let the agencies make changes and revisions to it, let it evolve like it must, because it is a new document and must change over time. But the scientific basis and technical basis of it must be maintained.

Another thing that concerns us is some of the fact versus fiction that we are hearing about the manual. Many members have talked about these very large percentages of developable land that is now called wetlands by the agencies.

We must remind all of you that the most prominent thing that the manual does is to say that all three parameters must be satisfied. The presence of hydric soils alone apparently is being used as an erroneous basis to pronounce very large percentages of areas that are now being called wetlands.

We caution you to use these—in using hydric soils alone as a basis for calling things wetlands. Just in the Detroit News last week we saw an article, for example, that said that 70 percent of the entire United States could be called jurisdictional wetland and not allowed to be developed on.

That is, I think, a good example of some of the things that have been overblown about the manual. So, we urge you to separate the fact from the fiction in the manual.

Solutions are very important, and I think that is what you want to hear about. We have recommended several solutions to the manual problems in the testimony. Perhaps, the most important thing that I think—the most legitimate arguments that are being brought out about the manual are the delays that are occurring.

People are having a hard time getting the Corps to delineate wetlands, and that is true in many areas. Also, there are consultants doing the delineations and, in some cases, doing them poorly; and the Corps is rejecting those delineations.

Some of the solutions that we have offered you are first and foremost getting more resources to this agency so that it can do a better job on the ground.

Since the Reagan administration in the last 10 years, we have seen a very sharp decline in the resources that are available to these agencies. They have been squeezed out of resources that they legitimately need.

So, what we are asking for is for an expedited needs assessment to be done for these agencies to find out what their needs truly are and let us go together to the appropriations committees and try to get more money and more resources into this program.

Another element of the problem is the lack of training and certification for Corps delineators. Just recently, through the Water Resources Development Act of 1991, we saw the birth of a training and certification program. Again, that is a program that we would like to see implemented and carried out so we get better technical people out on the ground actually delineating wetlands.

There is much confusion about the manual, and the Corps has done a poor job of trying to sift through that confusion for people that are being regulated. We recommend that the Corps and the EPA make a strong effort to develop education and outreach programs to get to the regulated community and try to explain what the manual is all about.

Finally, we recommend that the mapping that is being done by the Fish and Wildlife Service of the National Wetlands Inventory be speeded up. Now, it has been correctly pointed out that this mapping that is being done across the Nation does not on a one-to-one basis tell you where each jurisdictional wetland of 404 is. What it does is serve as an early warning process that can help developers find out where wetlands may be on their property.

So, in sum, we acknowledge that some of the problems exist, especially the delays and especially the confusion about what the manual does; but we think these solutions we have recommended can be tried and should be tried to take away a lot of the confusion associated with the manual.

Second, and quickly, I wanted to talk a bit about mitigation sequencing and the controversy over the mitigation agreement.

Similar to the manual, mitigation has had, again, a long history of controversy and problems.

The Corps has varied from district to district, and the agencies have varied between themselves regarding what they are requiring for mitigation by permit applicants. There has been a lot of uncertainty and a lot of unpredictability.

In the process, there has been a tremendous amount of wetlands resources that have been lost because of the problems of mitigation.

So, therefore, again, when we saw this mitigation agreement, we were hopeful that it would be a positive step forward. We believe generally that it is because it does put a higher priority on the sequence of mitigation, the avoidance first, minimization of impact second, and compensation third.

We believe that sequence is very important because it reflects the uncertainty and the unpredictability of attempting to restore and create wetlands, which is the situation that has often happened in mitigation in the past. Where avoidance was overlooked first, the Corps allowed the permit applicants to go straight to compensation and restoration to substitute for those wetlands lost, and these attempts did not work, and we had no net maintenance of wetland functions and values.

Now, that is not to say that we believe all wetlands are created equal. Obviously, wetlands have different functions and different values. But we believe that all wetlands do have fundamental values, and those values were recognized by the Clean Water Act.

But we believe that section 404 does recognize that not all wetlands are created equal. The practicable alternatives analysis that is incorporated into the MOA and the mitigation guidelines recognizes this, we believe. The other thing is that through the advanced identification process that EPA has, and a similar process that the Corps has, wherein an ecological unit such as a river basin, or a part of a river basin, the Corps and EPA can look at the broad spectrum of wetlands functions and values that are provided in those areas and make decisions about which ones need to be protected and which ones could be destroyed as long as they are compensated for.

So, as long as these types of procedures are being used, we believe that the current system can deal with the differences in wetlands functions and values.

Finally, I just want to touch upon a couple of things we believe are important for strengthening and smoothing out this process, the first of those being the "no net loss" goal.

Again, that has been criticized a good deal, we believe, in large part because of the problems and frustrations that have come about because of the manual and mitigation agreement. But we believe that incorporating this goal in the Clean Water Act would be a logical and useful extension of the current Clean Water Act goal to restore, maintain, and protect the biological and physical integrity of waters of the United States.

Finally, as has been mentioned by a couple of the witnesses—well, Mr. Tipton, at least, mentioned that there are a lot of activities that are going on across the country which destroy wetlands which are beyond the scope of 404, and we believe that those activities should also be regulated by you.

Now, this may seem like a tremendously new, added burden, but we urge you to look at some of the costs and efficiencies that might be involved in this. Currently, there are a lot of wasted resources going into litigation involving the issue of what is a regulated activity and what is not.

By expanding the scope of the regulatory program, we believe some of the uncertainties could be eliminated and some efficiencies could be achieved.

So, to finish up, we urge you to look at some of the solutions to the current controversies that we believe are within our grasp before making a major overhaul to the section 404 program and also urge you to look at some of these improvements that we have suggested.

Thanks very much, again, for the opportunity to speak.

[Mr. Moyer's statement may be found in the appendix.]

Chairman LaFalce. Thank you, Mr. Moyer.

Our next witness will be Mr. William Ace Parker of Parker Forestry Services. He will be testifying on behalf of the Forest Industry Wetlands Task Force.

Mr. Parker.

TESTIMONY WILLIAM H. (ACE) PARKER, PARKER FORESTRY SERVICES, ON BEHALF OF THE FOREST INDUSTRY WETLANDS TASK FORCE

Mr. Parker. Mr. Chairman, and members of the committee, my name is Ace Parker. I am owner of Parker Forestry Services, a timberland management company in Salisbury, Maryland. I appreciate the opportunity to appear before you today on behalf of the Forest Industry Wetlands Task Force. The forest products and pulp and paper industry is very pleased to see your committee review the wetlands issue on such a timely basis.

The Forest Industry Wetlands Task Force is composed of representatives from the forest products and pulp and paper industries including the National Forest Products Association, the American Paper Institute, the American Forest Council, and the American Forest Resource Alliance. NFPA represents interests of owners of forest lands and manufacturers of forest products.

It is estimated there are approximately 105 million acres of wetlands today. The forest products industry, comprised of tens of thousands of tree farmers, woodland owners, manage approximately 50- to 60-million acres of these wetlands.

These forest wetlands provide wildlife habitat, fishery habitat, recreation, clean water, and flood control, while at the same time producing a valuable national renewable resource, timber and fiber, that is needed for our Nation's growing demands for wood and paper products.

Therefore, our industry has a direct and substantial interest in laws and regulations affecting our wetlands. The National Wetlands Policy Forum recognizes that some activities in wetlands have little effect on wetland functions and are largely compatible with wetland protection. Forestry was pointed out as one of these uses.

The Forest Industry Wetlands Task Force sponsors the national goal of no overall net loss of the Nation's remaining wetland base. Forestry management provides two major contributions to this goal.

First, good forest management is a compatible use that protects and maintains wetlands functions.

Second, forestry provides land owners with an economic incentive to maintain their forestry wetlands and, in that way, advance the goal of wetland protection through reforestation and restoration of our wetlands.

Let me give you an example. One of the parcels that I manage on the Eastern Shore of Maryland consists of 2,600 acres. This tract of land was first owned or is owned by the first state forester for the State of Maryland.

He acquired this tract in 1920. Since that time, two other generations of foresters have been managing this land.

The timber has been harvested. It has been reforested through every method that you can image. Bulldozing, fire, bedding, and chemicals, and we are still cutting timber on this land.

To show you how good this is, recently the State of Maryland came in and designated 856 acres of this tract of land as a national heritage area because of the rare and endangered species of insects, plants, birds, and you name it.

In addition to that, the National Park Service came in and looked at this and said it was a most pristine area or the most pristine area they had seen east of the Mississippi.

Because it was so pristine, they wanted to designate it as a national park for the public to see, and all of this has been managed timber land.

The entire 2,600 acres under the new definition would be considered wetlands, because of the hydrology of the soil and because of the vegetation that is growing on it.

The Forestry Industry Wetlands Task Force supported the Wetland Forum's recommendations that four Federal agencies develop a consistent methodology for delineating true wetlands, and that is swamps, marshes, bogs, and similar areas.

However, we cannot support the over-expansion of the definition in the 1989 manual. The new interpretation of this definition in the 1989 manual will expand by 30 to 50 percent the amount of jurisdictional forestry wetlands in the United States.

For example, in one of the accounts that I work in on the Eastern Shore, this new definition will designate 70 to 80 percent of that area as jurisdictional wetlands.

A major reason for this increase is because the manual contains a water hydrology criterion that establishes as jurisdictional wetland an area where water is below the surface for 7 consecutive days during the growing season.

Mr. Chairman, that represents about 4 percent of the growing season. This controversial new wetland interpretation encompasses broad expanses of dried-up land areas that do not exhibit characteristics that you associate with wetlands in any way.

For example, this picture here—and I would like for your committee to see it—is of a woodland, and this area right here is considered a wetland, and 90 percent of the area that I manage looks just like this picture here.

Private land owners own approximately 75 percent of the remaining wetlands in this country. As a small businessman and private forestry consultant, I can personally attest to the complicated procedures involved in dealing with wetlands.

This involves a requirement to consult a half-a-dozen technical publications.

Here is a picture of some of these publications that we have to refer to.

[The pictures may be found in the appendix.]

Mr. **Olin**. Could I butt in with a question?

Chairman **LaFalce**. Surely, Mr. Olin.

Mr. **Olin**. Which of these technical parameters is it that causes this particular piece of land to be a wetland?

Mr. PARKER. Yes, sir; it is because the hydrology of the soil, to determine whether it is or not, is that if we have water within 12 to 18 inches below the surface for 7 consecutive days during the growing season, it is considered a wetlands.

Mr. OLIN. You are really challenging to some extent the statement that these technical parameters are so sacrosanct and really are like the bible. But you are saying that you are getting some bad answers out of those parameters, at least in this respect; is that correct?

Mr. PARKER. Thank you, Mr. Chairman.

Chairman LAFALCE. Please continue.

Mr. PARKER. The Forest Products Industry has committed $2 million over the next 5 years for forestry wetlands research. A part of that research is to conduct a technical evaluation and review of the manual. Attached to our testimony is the finding of significant technical flaws in the manual.

[The attachment may be found in the appendix.]

Mr. Chairman, in 30 years of practicing forestry and attending wetlands training sessions on the Eastern Shore, I am still not able to understand or apply the manual and associated publications in delineating wetlands; and I am not by myself. We have had people who are supposed to know how to delineate wetlands, and the variation in what they delineate is unreal.

For forest land owners and managers, there is currently an inconsistency in delineating jurisdictional wetlands from farm and forest lands. For example, two adjacent tracks of land, one planted with corn and one planted with pine, would be subject to a different hydric test.

We have recommended that the following changes be made to provide a greater consistency and accuracy to the issue of delineating true wetland. One, the hydrology criterion delineating a wetland must contain the concept of water table at the surface. That means inundation at the surface, not 12 to 18 inches below.

The presence of surface water would be much easier to identify than that underground and would reduce a substantial confusion and subjectivity regarding the determinations of wetlands below the surface. This would support Administrator Reilly's recent remarks on wetlands, stating, "We need to find a way of applying a duck test to wetlands."

Chairman LAFALCE. If only we could get the people in the EPA and the Corps of Engineers to find that duck.

Mr. PARKER. Number two, the growing season should be defined as plant heartiness zones, based on the period between the average date of the last spring frost and the average date of the first autumn frost.

The current manual defines a growing season for soils in Maryland as a period from February through October. This is approximately 10 weeks before the actual growing season begins, as reported in the Soil Conservation Soil Survey of the Eastern Shore, of which I have a copy right here, and they state that the growing season starts in mid-April.

In summary, appropriate silvicultural activities are compatible with wetlands and are one of the preferred uses. Federal Government policy should not be a disincentive to management of compatible forestry.

The forest products industry has serious concerns with the greatly expanded jurisdictional wetlands in the current Federal manual for identifying and delineating wetlands. Until these problems are resolved, the national goal of "no net loss" of wetlands will not be attainable.

The Forest Industry Wetlands Task Force looks forward to continuing to work with the House Small Business Committee and other committees to help resolve the difficult question of what constitutes a jurisdictional wetland.

Thank you for the opportunity to present our comments.

[Mr. Parker's statement, with photographs and attachment, may be found in the appendix.]

Chairman LaFalce. Thank you very much, Mr. Parker.

Out last witness on panel No. 1, will be Frank Ciminelli, a constituent of mine from Western New York, who will be testifying on behalf of the National Association of Industrial and Office Parks.

Mr. Ciminelli.

TESTIMONY OF FRANK CIMINELLI, ON BEHALF OF THE NATIONAL ASSOCIATION OF INDUSTRIAL AND OFFICE PARKS

Mr. Ciminelli. Thank you. Mr. Chairman, members of the committee, thank you for permitting me to speak to you today. The issue of the impact of the section 404 wetlands is of vital importance to the entire development and construction industry.

My name is Frank Ciminelli. I am here as a representative of the National Association of Industrial and Office Parks [NAIOP], a trade association of over 7,000 commercial real estate professionals as well as the entire real estate and development construction industry in Western New York.

I am the chairman of the Ciminelli companies which are actively involved in the Niagara Frontier Builders Association, the Greater Buffalo Association of Realtors, and the Contractors' and Developers' Association. I have personally participated in the construction and development industries for over 30 years.

Mr. Chairman, the National Association of Industrial and Office Parks recognizes the need for the conservation and preservation of our Nation's wetlands. Their importance to the ecology and environment and economy goes without saying.

The association has taken a leading role in its effort to find practical, policy solutions to these difficult policy questions. The NAIOP has not only developed policy recommendations addressing wetlands, but has honored its members who have developed projects compatible with the wetlands environment.

Mr. Chairman, and members of the committee, I am a businessman appearing on behalf of other businessmen. I am not an engineer or an attorney, thank God. So, I will leave the technicalities to others.

I am, however, keenly aware of the devastating economic impacts wetlands regulations are having on the building industry.

Chairman LaFalce. I want you to know that before I became a Member of Congress, Mr. Ciminelli had outstanding legal counsel.

[Laughter.]

Mr. CIMINELLI. The caption on this says the building industry is already heavily regulated. Gee, I wonder why we would say that.

The building industry is composed of primarily small businessmen. The average homebuilder builds about 15 houses a year.

These builders and contractors get their supplies from many other small business people who don't have the capital to sustain these changes that you people keep bringing about, hitting us on all sides of the head with changes we can't keep up with.

The building industry is heavily regulated. It is subject to a wide range of State and municipal building code construction requirements now. Additionally, since 1978, in New York State, all construction projects have been subject to an environmental review and the State Environmental Quality Review Act, which we call SEQR. Many other States have enacted similar environmental legislation.

As an individual, I personally love nature, and I prefer to surround myself and my projects with a natural setting. As a developer, I believe that a project which is good for the environment is also good for our company.

Landscaping in an open space results in a finished product which not only has less of an impact on the environment, but a product that is also more attractive and desirable in the marketplace.

In New York, the environmental review process has added significantly to the time between the first submission to a municipality of a concept plan and the time when the final building permits are issued. On a project over 10 acres, the process can easily take over 6 months, if approval is granted at all. These delays add to the cost of a project and ultimately to the cost of housing or to the future work space.

In many cases, these increased costs have driven small businesses in our community out of business. As the committee knows well, when small businesses are forced to close, the competitive climate in any community is diminished and costs go up for everyone. Remember, small business is the backbone of the free enterprise system and must be maintained at all costs.

On March 20, 1989, the Federal Manual for Identifying and Delineating Jurisdictional Wetlands—the manual, as we call it—became effective. This manual was issued by four Federal agencies, and you know the four agencies.

Normally, each agency publishes regulations in the Federal Register for comment. None of this happened with this manual. The agencies simply met and wrote the manual.

Clearly, these actions constituted an abuse of their authority.

As a businessman, I am appalled and infuriated by this lack of sensitivity to the effect of these regulations. If I showed a similar lack of concern, I would lose all of my commerce; and I should lose them, if I did. I would be out of business, and I should be.

Legislation is presently going forward to challenge the validity of these regulations. Unfortunately, many small businesses cannot wait until the issue is judicially resolved, because many of these small businesses will be bankrupt by then.

In Western New York, many of the problems of the Corps of Engineers wetlands delineation manual have resulted in serious financial hardships in the construction industry. Numerous local projects previously approved have been halted.

The wetlands regulations have hit us like a ton of bricks with only a minimal phase-in period. I am not exaggerating when I say that many small companies will be closing their doors as a result.

I would like to share with you some examples of the impacts these regulations are having on commercial development. I acquired four acres near a very mature industrial park called the Audubon Industrial Park; it is a State-sponsored park.

John knows where it is and knows all about it.

In 1987, these four acres were between two buildings, one of the largest parcels in the park. We commenced marketing efforts and the study for alternative design concept.

Design was submitted to the town, which promptly approved the plans and related site work and issued what they called site plan approval.

On October 27, 1989, to beat the bad weather, a permit, so that we could start construction expeditiously, was issued. By January 1990, 3 months later, a tenant had signed a lease.

Now that we have acquired the site, received the appropriate site plan approval, signed a lease for the proposed structure, we must stop. An investment of over $80,000 is a hard investment.

Current obligations are exceeding $40,000. The potential of a lawsuit from the tenant rests in limbo as a result of changes in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, because a small amount of vegetation caused by the prevalence of conditions in Western New York exhibits wetlands potential at the site.

Heretofore, diligence had shown the site was not and could not be regulated under the Corps' Federal manual. As a result, time frames for developing services for wetlands will be paid, and the profit margins severely eroded if not completely evaporated.

All of these calamities will destroy the economic sense of a project that started 3½ years ago. It has been estimated that the Corps' exaggerated authority will result in a 35-percent decrease in new home starts in the area and adjacent counties in 1991.

Commercial contractors will suffer an equally devastating impact. The worse example I am aware of involved a large subdivision covering 288 acres of land. The site is not listed as containing wetlands on any map issued by any Federal agency or by New York State.

Before July 1990, almost $2 million had been spent on land acquisition, carrying costs, engineers and environmental studies. Then the Corps issued a stop-work order, and the entire project ground to a halt while the wetlands delineation was completed and reviewed.

Now the Corps has decreed that the areas of land contained in the project contain wetlands and the entire project will have to be redesigned, reengineered, and restructured. Impossible.

Another comparable example from my own experience is my Aerodrive Industrial Park development which John is familiar with. It is adjacent to the Buffalo International Airport.

I acquired 60 acres of land in 1985, but I needed another parcel with frontage to make the site economically viable. While my company negotiated for the other parcel, I revised the plans for the site to fill the airport extension of the runway.

While the chance to buy the final piece of land—when the chance arose, I bought it for a total of $400,000 and sought to develop the site.

When I applied for the necessary permits, I found that by selling the soil as fill, I had inadvertently created a wetlands. Now I am told it cannot be used for development.

Moreover, they will not even let me clean the site to create truly environmental wetlands which could potentially be credit toward compensation for mitigation for another project. The upshot is that I am stuck with a very expensive 60 acres of land.

This is clearly a taking of my land by the Corps, and the worst part about it is I have got letters going back to the 1980's from the Federal Aviation Administration and the U.S. Department of Interior Fisheries and Wildlife Service, because they are very concerned of migratory birds. They want nothing in the area near the airport that any birds would land on.

Here I was going to fill this. I am trying to do what the FAA wants.

Chairman **LaFalce**. And the Fish and Wildlife Service——

Mr. **Ciminelli**. So, I give up. I don't know if I am on foot or horseback. But I am not done yet. God bless America.

What can be done. First, I would urge members of the committee to cosponsor the wetlands act soon to be introduced by Congressmen Hayes, Tauzin, Thomas, and Ridge. The legislation goes a long way toward improving the 404 permit process.

Next, I urge this committee in the strongest terms to press for a moratorium on the enforcement of the manual and to make sure that the next set of Federal wetlands regulations is issued under the proper procedures. Tell these agencies to do it over and to do it right this time.

I am deeply angered by the insensitivity displayed by the responsible Federal agencies to the impact of these regulations on the building and construction industry. This excessive regulation raises cost that ultimately will cause American business to lose its competitive advantage, and the good Lord knows we can't afford to lose any more competitive advantage to our overseas friends.

I thank the committee for taking time to listen to the views of a small businessman. It is the willingness of the U.S. Congress to listen to people like me which makes this country great.

Thank you and God bless you.

[Mr. Ciminelli's statement may be found in the appendix.]

Chairman **LaFalce**. I am going to refrain from asking questions at this point until the other members of the panel have had an opportunity. Mr. Sisisky.

Mr. **Sisisky**. Thank you, Mr. Chairman.

I thank all the witnesses and the testimony is very good. Mr. Moyer, I don't know how they got you in this group. Great planning. I don't mean to be in an adversarial role, but obviously my blood is kind of welling up.

I recognized this problem, Mr. Chairman, a couple of years ago. In fact, I brought it to the attention of a State Governor, Governor Sununu. I come from Virginia; and, as you say, I have a problem.

I represent the city of Chesapeake where 65 percent of the land in there could be wetlands. I have heard the background on these people. Would you mind referring to your background? Are you a scientist?

Mr. MOYER. I am a fisheries and wildlife scientist. It seems like it has been a long time since I practiced the science, but that is my training, yes.

Mr. SISISKY. You work for the National Wildlife Federation, which has 5.8 million members as stated in the testimony given?

Mr. MOYER. Yes.

Mr. SISISKY. I say this because I have met with the Congressional Sunbelt Caucus Wetlands Task Force on this, and, in all honesty, I think this issue is going to do irreparable harm to the environmental movement in this Nation. I honestly believe that.

I think that there is a swelling of emotion, and pressure is going to be put on this body; and, in response, I am afraid we are going to do something that is going to be harmful to wetlands and the environment. I have to tell everyone here it is nice to say, "Sign on Mr. Hayes' bill." We have been working on that bill. However, nobody seems to be scared in the environmental movement, because I do not think they understand what is going to happen.

I think that with the other committees and other obstacles that you have to go through, there is really not a great risk of something happening. So, let me tell you where you have to place your emphasis, and I am talking to all the trade associations and everyone else.

You still have to work with the Congress, but I am telling you that you have to work with this administration, also. Somehow, somebody has to get to this administration. We have met in the White House, this group that I belong to, with Mr. Sununu; and he said, "Yes; I know we have got a problem."

Yet, in the meantime, people are going broke. I have developers who are paying $2,000 a day in interest. That is 7 days a week. Mr. Moyer, have you ever owned a small business? Seriously, now.

Mr. MOYER. I grew up with one.

Mr. SISISKY. So, you must understand the situation of what is happening. Now, what we have done in all honesty, in 1989, we have created a tremendous industry in this country. All the Corps says, "We don't have the people," so you go and hire a consultant. You go to Atlanta, and that is where a lot of them are headquartered. You hire a lawyer and drop all these things and have the overlays, because you don't have the help.

I agree with you, by the way, I want you to know. I agree with you. Over the past 10 years, we have cut back on Government employees who we need. The reality of life is, we are not going to have these employees. We are in a budgetary problem; and there is no way you are going to get more people, in my opinion, in the necessary Government offices.

I just don't believe it is going to happen. Nevertheless, we can talk about it, and do everything we can. Now, you mentioned that you will continue to support the manual as long as it remains biologically defensible, and as long as political considerations do not compromise its scientific integrity.

Now that is a pretty good statement, and I mean it is beautifully laid out. But the real world is that we are living in a world in which people are going broke. I have been here a lot longer than you have, and I don't have any scientific data to back this up, but I have lived through a lot of recessions.

As a matter of fact, I will give my age. I have lived through a depression, and I can tell you that the home building industry usually leads us into the recession; and, as we come out, the home building industry usually leads us out.

You watch those figures on what we are doing now. I don't think it is any accident that only 3 months ago, we admitted that we have a recession. Hell, the recession started in 1989 when the Wetlands Delineation Manual came out.

I can't for the life of me understand how solutions can be brought about. I have got pages of questions I could ask, but I don't want to take anymore time. Yet it is so basic and everybody has said it, and we have seen the pictures. What is a wetland? Common sense will tell you.

A wetland is where water sits. Is that a fair statement? Would you please give me your definition? Not scientific, but something that I can understand, for I am not a scientist. Really, because I think that is where the flaw is in all of this.

Mr. MOYER. Well, I think it is important to point out that a wetland doesn't need to have water all the time. I think we all admit there are some wetlands where water isn't there year round, particularly the bottom land hardwoods that exist in Virginia and other areas of the South.

Mr. SISISKY. Does it need to be there 2 weeks, 3 weeks? How long should it be there?

Mr. MOYER. My point is that there are dry areas that are tremendously biologically productive at certain times of the year when the water is there. The bottom land hardwoods that I mentioned get wet in the spring. Fish and other wildlife are there to utilize those areas. So, the point is that you don't have to have all three characteristics all the time.

Now, whether you have to have them 7 days or 14 days out of the year——

Chairman LAFALCE. I think what we are trying to say is that nobody is going to go fish off the airport runway at an excavation that Frank dug out in order to create some fill, and yet the development is being bogged down. We are not talking about the traditional type of wetlands—we have come up with a definition that makes virtually any land which is wet a wetland deserving of protection. That is crazy.

I think Congressman Sisisky has brought up a good point. The environmental community is going to lose all credibility in Congress if they persist in pushing these crazy, extreme approaches. They are going to lose everything.

Mr. SISISKY. Well, they haven't lost their 5.8 million members. But one more question; are they in the process of revising the manual now?

Mr. MOYER. That was another point I would like to make. Let's see what this revision process brings about. Let's see how it works in the field. Let's see if it works better.

Mr. **Sisisky**. While we are doing this, because it could take 2 or 3 years, would you be in favor of a moratorium on what we are doing?

Mr. **Moyer**. I think we stated very clearly that we think we have made some progress with this manual. I know we are hearing a lot of people saying we haven't made any progress at all, but we think we have, and we don't want to go back to the time that existed before this manual where we had different Corps districts drawing different boundaries.

We had EPA and the Corps fighting over what was a boundary and what was not. To us, that would be a step backwards.

Mr. **Sisisky**. So, you would not be in favor of a moratorium?

Mr. **Moyer**. Right.

Mr. **Sisisky**. How about a grandfathered phase-in of the manual? In other words, incremental steps.

Mr. **Moyer**. I don't think I understand quite how that would work. I would be willing to take a look at it and consider it. But the other point is that I think we can work together, environmentalists and Members of Congress and the regulated community, to put pressure on the administration to make sure that they don't take forever to get these changes made to the manual. I would like to do that.

Chairman **LaFalce**. Mr. Olin.

Mr. **Olin**. Mr. Chairman, I certainly like what the gentleman from Virginia, Mr. Sisisky, has said. He is right on the mark and I think, Mr. Moyer, you and the other environmental groups would be highly advised to get a positive viewpoint of this subject and join the effort to try to straighten it out, because you will not win this argument.

I have too many business people who are going to go under, and it is going to affect too many people in the country. Congress is going to have to respond to that, not that we are having any reluctance. We are going to want to respond to that problem. We have too many agencies handling this subject.

It is too complicated. That is pretty obvious. I think you will agree with that, wouldn't you, Mr. Moyer?

Mr. **Moyer**. Yes.

Mr. **Olin**. We also have too many committees in the Congress that are involved. We are going to have an awful time in the Congress legislating to pull this thing together, so we have one policy with respect to wetlands, even the subject of defining what is a wetland. We are going to have trouble doing that. Or, you are having trouble with it. But I would like to see your type of organization join this effort in working for a solution.

I think it has got to be some kind of a practical solution that makes sense. People have got to know where they stand. They have got to be able to get their permits fast, in a proper manner. It can't be too costly. If you are going to take somebody's land, it is going to have to be compensated for.

The things of that sort have to be worked out; and I would hope, since you know about this manual, you know that this manual is not working. You would agree with that, would you not?

Mr. **Moyer**. As far as I can tell, in some places there are problems.

Mr. **Olin**. Well, certainly taken as a whole, it is not working out as everybody expected.

Mr. **Moyer**. I think it may be working quite well in some places.

Mr. **Ciminelli**. You are not trying to do business in some places, like we are.

Mr. **Olin**. No doubt there is some good in that manual. A lot of responsible people had input. A lot of good work was done on it there. There is no question about that. It is possible there may be some way found to use the good parts of it and revising the parts that are not helping us, that are causing us trouble. That is about all I would say. I hate to pick on you. You happen to be here on this panel, sort of uniquely on the panel, as has been mentioned.

We are all for you. Everybody in this room is in favor of the proper protection of the wetlands, but we failed to define those in a way that fits the practicality of our society here. That is about the size of it. Until we get that done, we are going to have some problems, and I certainly commend the chairman for getting into this subject.

We are going to be able to push this problem on to the various committees; and, I hope, coordinate the thing; and maybe he will get it together.

Chairman **LaFalce**. We hope to be a catalytic agent.

Mr. **Olin**. I want to move on. We have the president of the Virginia Farm Bureau Federation coming on the program. I want to be sure I hear him before I have to leave; so, Mr. Chairman, I will stop talking.

Chairman **LaFalce**. Mr. Poshard.

Mr. **Poshard**. Thank you, Mr. Chairman.

I would just like to establish factually here at least the opinions of each of you.

Mr. Moyer, you indicated in your testimony that, ever since the application of section 404, we continue to lose wetlands in this country, in your judgment, and everybody else seemed to disagree with you. Am I stating that correctly? Are we losing wetlands even yet, with the application of 404, in the judgment of the National Wildlife Federation?

Mr. **Moyer**. Absolutely. I think the best data we have available certainly shows that. I don't think there is anybody who would deny that.

Mr. **Poshard**. Mr. Bostic is indicating that in his judgment we are gaining wetlands because of the application. Who is right here? I mean, who has some statistical data that we can actually believe?

Mr. **Moyer**. Well, in my opinion, the Fish and Wildlife Service has the best scientifically defensible data, and they are about to put out a new report on the status and trends of wetlands in this country. Although I haven't seen it, what I understand it will say is that the rate of loss is decreasing over what it has been historically; but that we are still losing about 200,00 to 300,000 acres of wetlands a year.

Mr. **Poshard**. Mr. Bostic, do you have anything —

Chairman **LaFalce**. So much depends upon definition. One of the best ways to cope with crime is to define certain activities which used to be crimes as noncrimes. One of the best ways to deal with wetlands is to define areas that weren't wetlands as wetlands.

You can have a tremendous improvement; and, unfortunately, that is one of the things that is happening. By the present definition of wetlands, that in the delineation manual, et cetera, large portions of the country which nobody ever considered to be a wetland are now being considered as wetland.

I don't know that is in the data that the Fish and Wildlife Service has, but it certainly is within the data that must be used by the individual small businessman in making his judgments, and certainly within the minds of the Corps of Engineers in making their judgments. It is certainly in the mind of bankers in making their loans, et cetera, et cetera.

Mr. POSHARD. Probably depending upon whether you represent the Fish and Wildlife Service or Home Builders Association, your definition of what constitutes a wetland is always going to be different. Therefore, your statistical data will be different on that. I understand that; but Mr. Moyer, just to relate to you for a second, I represent the southernmost part of Illinois; and I don't think there is anyone who has a greater appreciation for wetlands than I do. The Ohio and Mississippi Rivers converge there.

One is on the west side of my district; one on the east side. We have a marvelous national refuge that has just been created along the Wabash River. It is a swampland, a bottom land. It is a filtration for hydraulic effects of runoff.

Unless you have traveled extensively in those kinds of areas, it would be hard to conceive of how important wetlands are to this country. I think we all recognize that; but by the same token, there are some problems, I think you would admit. I have farmers who live along the Wabash River, for instance, who have farmed their lands for 100 years in their family, some of those farms.

We always have backwater in the spring. The river always overflows its banks; and when the water goes down, they always farm their land. Today, they are being told they can't farm their land any longer because the backwater for a certain party stays there and it constitutes wetlands.

I don't think that is necessarily right. Even though I have a great appreciation of wetlands, I just don't think you can do that. That has been a practice that has been there for years, and farmers are the epitome of small business people in this country who are trying to survive.

Thirty-five years ago, I–57 comes up through the central part of Illinois. We have a gentleman who owns a golf course along I-57. The Department of Transportation, when they were building that interstate, ran three or four streams together and converged them into a rather large ditch that now overflows onto his golf course.

They would like to change that, except that the overflow of the ditch onto his golf course, which shuts his business down for about 3 or 4 weeks out of the year, is now designated as wetlands. So, that is the kind of thing that I hope even you folks would realize we have problems with; that affect farmers; that affect small business owners. I consider myself to be a strong environmentalist; and I want to be in support of a strong wetlands policy, because I think the country needs it.

We have had years and years of ecological and environmental imbalance in this country. But by the same token, I don't want to see us overshoot now to the point where we cannot implement a policy that is reasonable even for the small business community, and I think folks in your profession need to help us figure this thing out in terms of its reasonableness. Thank you.

Chairman **LaFalce**. Mr. Andrews.

Mr. **Andrews**. Thank you, Mr. Chairman.

I am going to ask this question to each of the members of the panel. On Friday I had the occasion to visit a wise business owner near my district who is interested in expanding his electronics plant, a very modest expansion, maybe 70,000 or 80,000 square feet.

He is in a federally mapped wetlands area, and for that reason, as part of the reason, he is not going to do the expansion. He is not going to hire the 20 people he was thinking of hiring and not going to be adding to the tax revenues of this Government and the other governments that regulate him.

The concerns that he raised, I think, are echoed by the comments of my colleagues earlier today; and they go to the question of which level of government should control wetlands regulations. Which decisionmakers should make the regulatory decision?

I will tell you what this gentleman confronted. When he thought about expanding his plant, he first had to go to the site plan subcommittee of his local planning board and municipality. He then had to go to the full planning board in his municipality. Because his business is remotely proximate to the county highway, he had to go to the county planning board.

Because his decision would have an impact on point source water pollution, he had to go to the New Jersey Department of the Environmental Protection. Because he is in a Federal wetlands, he had to go to the various agencies that are involved in this kind of decision.

One sense that I have from talking to him and talking to a lot of other business people in my area is that there is no objection to the substance of regulations. As a matter of fact, I think there is a consensus that a strong and progressive wetlands protection policy makes good economic and environmental sense.

One of the objections that I am hearing is that I want to go to one agency, ask one set of questions, and get one set of answers. I don't want to have to go to four different levels of government, 12 different agencies which don't talk to each other, which work at cross-purposes, and give me a tough standard that I have to live by; but give me one standard and give it to me quickly.

Now, with that as context, I would be interested in asking each member of the panel which level of government they think would be most appropriate to be involved in the protection of wetlands, whether it should be local government, State government, Federal Government; and if they are in favor of a Federal standard, whether they would favor Federal preemption of State and local regulations so there could be one agency to answer this.

Ms. **Campbell-White**. In my prepared comments, which were submitted for the record, the concept of one-stop shopping is right there in my statement. I usually call it one-stop shopping, because this affects small businesses. This affects housing affordability. It affects a lot of things.

One of the things I believe was introduced in the initial 5968 in the 101st Congress talked about the potential of giving to the States the authority or turning over to the States—like the MPDES Program—the authority to run the wetlands delineation and so forth at the State level, if the State had the financial resources and the people to do it.

Coming from a small State where I can walk in and look at every one of those buggers in the eye, that is in that department, and not take any horse feathers from them, that is OK. But people in larger States might have a problem where those people in a position of authority would just totally close themselves behind doors.

There are a lot of programs which are federally mandated and run by the States; and just think, that has to be done in cooperation and conjunction with the State, and whether the States have the financial resources and people to do it; but that is where it is closer to the people, if the Federal Government can issue some livable guidelines.

It isn't laws that we generally have a big problem with, because you gentlemen give them a lot of thought and concern, and you listen. It is what goes on behind closed doors that we, as the public, do not have the ability to have input, like delineation manuals, and now a new delineation manual that ends up causing the problem. So, I agree, or the National Association of Realtors agrees with your one-shop stopping or one-stop shopping, whichever way you want to put it.

Mr. TIPTON. Mr. Andrews, I think that is a very difficult question to answer in a simple way, but I would say to you that we would support a Federal agency such as the Corps of Engineers as the regulatory authority, but implementation on a State level, as was suggested earlier.

At this time, only one State—I believe it is the State of Michigan—has accepted the administration of the Federal program. Without, again, any dissertation, I just want to bring a point to mind that I was trying to get in a little bit earlier: there is a lot of confusion about the Federal program.

As we discuss the Federal delineation manual, it becomes very obvious, as Mr. Moyer stated in his testimony, there is confusion about fact versus fiction and whether all parameters had to be used in every instance.

I believe he said it pretty emphatically; and then, on the other hand, it was Mr. Olin who asked Ace Parker about what was being used; and, in his terms, hydrology was the only of the three parameters that were used; and then I think Mr. Moyer responded again that, well, they are not all there all the time.

There is so much confusion in this issue. The confusion just takes common sense away.

So, I think, again, there seems to be some dissension between Fish and Wildlife and the Corps of Engineers. There are turf battles. We don't want to deal with that, as Mr. Ciminelli has stated. We went to OMB first to try to get the delineation manual stopped. We don't need this in the business community. Small businesses are dying because of the inefficiency of the Federal Government.

We shouldn't continue the delineation manual at all. It needs to be stopped immediately. Applicants should be able to go to one agency and get the support of one agency, such as the Corps of Engineers, which could ask for assistance if they need it from agencies like the Fish and Wildlife Service. They could ask for assistance from somebody else. But when EPA goes in and employs Fish and Wildlife people to go out and do their mapping and delineation, then confusion again becomes the controlling factor.

So, I would strongly suggest that one Federal agency, the Corps of Engineers, be the authority, and that any State—again, I am a States' rightist, and I believe a State implementation could be a very valuable asset to offset having to go back to the Federal Government.

Mr. **Bostic**. Congressman Andrews, in response to your question——

Chairman **LaFalce**. I would try to ask each member to try to respond within a minute or so, because we have another panel, and we do have to move on.

Mr. **Bostic**. We would like to see the transfer of all authority over wetlands pursuant to section 404 to the U.S. Army Corps of Engineers so we have one sole source of responsibility to answer our requests. In that, we would like to see the mapping and all inventories of wetlands by the U.S. Army Corps of Engineers and not the Fish and Wildlife Service.

We would like to see that done in regions that are most affected by the economic impact of this; and on the State level, they can delegate these responsibilities to the State as long as the State is sophisticated enough to understand and not get carried away with energy, as happened in the delineation process of the definition. We would be very much behind the Corps handling the whole thing.

Mr. **Andrews**. Thank you.

Mr. **Moyer**. We are generally happy with the relationship between the State and Federal Government that 404 provides and the flexibility it provides. For the States to be able to assume the program, they must have the resources, and they must have the adequate authority to do that. As you may know, there has only been one State that has assumed the program.

If there were more resources that come from the Federal Government to the States, there probably would be more States that would be willing to do that. As long as they have the ability and the authority to do that, that is fine.

Mr. **Parker**. I would definitely like one agency in my State or the State that I live in. We have some different programs that overlap one another now; and it is even more confusing, if you can believe that. I don't know which agency would be the better or the best one. I really don't. Because, in my personal opinion, all of them are confusing.

Mr. **Andrews**. You are sure you are not in New Jersey?

Mr. **Ciminelli**. As we stated in our "What Can be Done," I think we would stick with the Army Corps of Engineers. I think this is a gross example of overkill—not sensitive to the needs of everybody, just a bunch of bureaucrats getting together and deciding what should be. That is not the way this country is supposed to be run.

So do it right this time, and I am sure we won't have a problem with it.

Mr. Andrews. Thank you very much. Thank you, Mr. Chairman.

Chairman LaFalce. Let me just ask one last question, and that has to do with the Corps of Engineers proposal to increase fees for its regulatory practices.

Mr. Bostic, you were going to go into that. I understand the proposal of October 11, 1990. What is the expected date of implementation of that proposal, and what are some of your concerns about it? What does it consist of?

It is on page 5 of your testimony.

Mr. Bostic. The increase of fees is opposed by the Association of General Contractors. But to this point—not to not answer your questions—we haven't really focused on that, because it is like putting the cart before the horse; and we feel that we have such problems that exist out there that we haven't even gotten to the position to worry about the fees.

Chairman LaFalce. I understand that, but when you look at the enormity of the increases, noncommercial activities are now billed at $10; those would be increased to $500. At least this is according to your testimony. A letter of permission from the Corps would require a $300 fee. You are talking about a lot of additional cost to small businessmen.

This is going to be passed on, of course. There is no question that it will be passed on to the consumer. You are talking about increasing the cost of a house, a building, a farmer's production costs. You are talking about tremendously increasing the cost if you are going to go from a system of paying for the activities of the Corps of Engineers, not from general revenues and general taxes, but instead through precipitous increases in user fees—and I am not just talking about modest increases. I am not talking about a 5-cent increase in the gasoline tax. You are talking about 2,000 percent increases in some instances.

Mr. Bostic. Yes, Mr. Chairman; we agree with that. Any increased fees on the front end of a project, a development project which the Association of General Contractors and the contractors are interested in, would, in fact, take potentially economical, viable projects; and that, coupled with the delay in time in this review process, makes it unfeasible to proceed.

Chairman LaFalce. A $5,000 fee if an environmental impact statement is needed?

Mr. Ciminelli. Mr. Chairman, are you kidding? I spent between $400,000 and $500,000 between engineering, legal, and—what is the other thing?—on 50-some acres, and I have the figures right here.

Environmental impact fees start there, but believe me—I have got the figures here, what it cost me in engineering, and legal, design, or whatever—it is close to $500,000. It is unbelievable. That is the biggest snakepit, the uncertainties. If I knew I could pay a $5,000 fee, and I could know next week if I can do the project—but you buy a piece of land and everything you do is law, because they change the law on you midstream. That is what kills you.

Chairman LaFalce. You spent $400,000 to $500,000 on consulting fees for 50 acres?

Mr. Ciminelli. Yes; archaeological. We found one arrowhead. Who knows if the guy who found it threw it out of his pocket? This is the truth. On a 56-acre site, we spent $493,624 from 1986 to 1990;

and I am not done yet. There is a lawsuit still pending, from when an environment group tried to stop us. One arrowhead. I don't even know what the wetlands issue will do to this, and I have never seen the arrowhead, OK? That is the snakepit.

Chairman **LaFalce**. Ladies and gentlemen, thank you very, very much for your deliberations. I have some questions I could ask you, but time is moving on, and we must get to the second panel. We thank you very much for your contributions.

Panel No. 2, please come to the witness table. The second panel will consist of Mr. Robert Szabo, executive director of the National Wetlands Coalition; Mr. Wayne Ashworth, representing the American Farm Bureau Federation; Dr. John Kusler, executive director, the Association of State Wetland Managers; Ms. Heidi Sherk, representing the World Wildlife Fund and Conservation Foundation; Mr.John H. Plummer, representing the Associated Builders and Contractors; and Mr. James O. Crook, representing the National Stone Association.

We will begin with Mr. Szabo.

TESTIMONY OF ROBERT SZABO, COUNSEL, NATIONAL WETLANDS COALITION

Mr. **Szabo**. Thank you, Mr. Chairman, and members of the committee. My name is Robert Szabo, and I am counsel to the National Wetlands Coalition.

The National Wetlands Coalition was formed in September 1989 to play a constructive role in the debate of the "no net loss" policy. We consist of land owners and land users, small and large entities, private and public sector entities. We have a membership of 54. The membership list is attached. Your committee has jurisdiction over one of the sectors of our society that is particularly impacted by this program.

I think it might be interesting to note the reasons that wetlands are suddenly an issue. Three events have occurred in the relatively recent past that together have made wetlands an issue for debate. First, the President articulated the goal of "no net loss." However, that goal has not yet been defined. It is not yet official government policy. The President's task force that is trying to determine what that means and how to achieve it is still doing its work and is supposed to report on its recommendations shortly. The second event is the issuance of the manual, which has been discussed. The third event, which has also been discussed, is the agreement between the EPA and the Corps concerning mitigation, which established once and for all that the methodology for determining whether that permit shall issue is "sequencing." "Sequencing" makes obtaining a permit much more difficult. These three events together broadened the Federal definition of wetlands and tightened the permitting process considerably.

We, Mr. Chairman, as a coalition, support the goal of "no overall net loss" of wetlands, but only as long as it is a goal and not a legal standard, and only as long as it applies to the functions and values of wetlands and not to acreage. We believe that on an acreage, mathematical "no net loss" formula is not achievable.

I won't bore you with a recitation of the importance of wetlands. You know their value; we all know their value. Most of us think of wetlands as swamps, marshes, and bogs; and we certainly know the value of such wetlands.

The coalition is very serious about protecting wetland values. However, the main Federal wetlands program today is the 404 permitting program which you have focused upon throughout your hearings. There are really two Federal programs on wetlands. One is the Swampbuster Program of the Farm bill. The other is the 404 permitting program.

I would say, Mr. Chairman, without going through the problems, because they have already been laid out to you, that the 404 is essentially a program that was enacted in 1972 to cover the "waters of the United States." I believe at that time most people believed that "waters of the United States" covered the bottoms of navigable waterways. However, this program has grown over the last 20 years to affect primarily private property through the inclusion of wetlands as "waters of the United States." As has been said before, 75 percent of all wetlands are privately owned.

So, the 404 program in 20 years has changed from a "public bottoms" program to a private property regulatory program. Whether or not this was ever intended by Congress is, of course, itself debatable. In 1977, there was legislative activity concerning the Clean Water Act. But today, the full flower of the 404 program is before you. I would hope that Congress would now debate this current program to determine if it is exactly what was intended by Congress.

We believe that because the courts have made judgments in this area, the regulatory agencies cannot solve these problems. You, the Congress, must deal with this problem if it is to be resolved. We believe that the Clean Water Act, which is before Congress this year, provides an opportunity to address the 404 program; and we hope that Congress will seize this opportunity.

Let me make a few points about the kind of policy we hope that you, the Congress, will establish. First of all, the program should have a narrower definition of wetlands. You have heard a lot about that today.

The delineation manual, Mr. Chairman, is a consensus scientific document. It was composed by a committee of 12 who reached a consensus of the document. We understand that this group is again meeting in an attempt to reach consensus a second time on what science says is a wetland. What the manual does not contain is a policy judgment on how far the power of the Federal Government should extend in this area.

The manual provides that three factors must be present for land to be a wetland. Hydric soil, which exists almost anywhere people live, because people live near water. The second factor is hydrophytic vegetation. It hasn't been said today, but there are 7,000 plants on the list of hydrophytic vegetation. These plants occur where hydric soil occurs. Thus, by elimination, you come to hydrology as the critical factor. Hydrology is the presence of water in the soil.

We would suggest, Mr. Chairman, that the public must, to accept the 404 program, see the land in question as being wet. Thus, we would recommend that there be water at the surface for some significant period of time before the land becomes a jurisdiction wetland.

One of the ironies of the current regulatory system, as I think Mr. Ciminelli mentioned, is that your land can become jurisdictional accidentally and unintentionally; but when it comes time to perform mitigation to gain use of this wetland, there is great question concerning whether a wetland can be created for mitigation purposes. Thus, we would suggest that Congress focus on whether land can accidentally become jurisdictional, but not become useful through the creation of wetlands in another area.

The second thing I would say is that the coalition strongly supports a wetlands classification system. We all know that all wetlands are not created equal. A wet spot in a corn field does not equal a coastal marshland. Thus, we recommend that the Congress adopt a classification system. You have support for that position from none other than EPA Administrator William Reilly, who has said publicly that classification is appropriate, his "duck test" comment.

He has gone further, however. He has suggested that he finds the system of wetlands classification that was recently adopted by the State of Maine to be interesting. I have attached the regulations from the State of Maine to my written testimony for your record.

[The attachment may be found in the appendix.]

Mr. SZABO. Once the Congress has decided, Mr. Chairman, the definition of a wetland, and the Congress has classified and prioritized "wetlands," the coalition could say something that nobody else has said today. Congress should expand the activities covered under the wetlands permitting program.

Today, the only activity covered is the "discharge of dredge and fill" material. This activity is almost indistinguishable from "draining and excavating" the fill material to discharge in the wetland. If the Federal Government is going to have a wetlands program, we recommend you add these two activities to the coverage of the program.

Overall permitting authority must be consolidated in one agency. What is absolutely insupportable is the Corps doing most of the permitting work and the EPA vetoing the permit in the end. We would recommend that Congress pick one agency, give them the resources, and hold them accountable for the permitting program. We think the best agency for this job is the Corps.

I am a Louisianian. I will tell you that there is not an EPA official in the State of Louisiana. We believe that it is hard to give a program to an agency that has no people in the State where there are the most wetlands perhaps in the country.

Chairman LAFALCE. Where is the nearest Corps office?

Mr. SZABO. In Dallas, which is not a very wet area, Mr. Chairman.

Chairman LAFALCE. It might be.

[Laughter.]

Mr. SZABO. I stand corrected.

We also, Mr. Chairman, recommend that Congress replace the "sequencing" test which has been adopted by the Corps and the EPA. Sequencing prevents the agencies from considering mitigation. We recommend that Congress substitute for that test a balancing test, the test the Corps always used up until February 7, 1990. The balancing test allows the agencies to weigh and balance the various factors, including the ecological factors and the mitigation that can be achieved. We encourage you to address this issue as you go forward.

We think that Congress should place increased reliance on mitigation banking. The wetlands permitting system needs to be less of a command and control, central regulatory system and more of a market-oriented incentive system.

We all know that the public sector does not have enough money to pay for the preservation of all valuable wetlands. If Congress encourages the private sector to do positive things, I believe the private sector will respond. The way to get private sector response, I think, is through regulatory flexibility. So, we encourage you to support a program that moves in that direction.

Mapping is very important, Mr. Chairman. One of the worst problems today is that the public doesn't know if the land in question is a wetland. Thus, there are horror stories of people buying land only to find out later that it is a wetland. If the wetland program is going to be a Federal level program, then we think advanced mapping is appropriate. In the mapping process, there must be local hearings; there must be notices; and, once the classification has been made, the public property records should reflect the wetlands classification so that people are on notice.

Finally, Mr. Chairman, we support granting greater standing to local communities through local wetlands master plans. Once a local community comes together to be serious in protecting its wetlands and submits a program that can be certified by the Federal Government, we think that, within the limits of that plan, the 404 permit should be unnecessary. This might be a way to marry a Federal standard with local implementation.

I would note one other thing, Mr. Chairman, before I complete my testimony—two other things. First, you should know that in the delegation of the 404 program to the States, the Federal program retains the right to pull individual permits back to the Federal Government for action. I would suggest to you that this is a strong disincentive for the delegation of the 404 program if, in fact, an individual permit can be brought to the Federal level.

The other thing I wanted to add is just an anecdote. On Monday of this week, I received a phone call from Federal prison from a gentleman named Mr. John Pozsgai. You may be familiar with him. He is the Hungarian immigrant in Pennsylvania who was convicted for basically putting clean fill material on his property after removing 7,000 used tires. He was told to cease and desist this activity and he did not. He was criminally convicted and now serves time in the Federal prison; 3 years with a $202,000 penalty.

The reason I mention this matter is this: Mr. Pozsgai said, and this might make Mr. Ciminelli happy, there are eight of your colleagues down here in Federal prison, eight attorneys with him in Federal prison. One of them stole $2 million from his client and placed it in a Swiss bank account. He received only a 6-month jail sentence. Thus, Mr. Pozsgai was confused concerning why he had a 3-year jail sentence for essentially doing something he considered to be improving his property. I think that this is the kind of lack of balance that characterizes this program. We hope that you and Congress will address this problem.

We think that the concepts we recommend are reflected in H.R. 5968, which Congressmen Hayes, Thomas, Ridge, and a bipartisan group of cosponsors put together.

[The bill, H.R. 5968, and section by section summary may be found in the appendix for January 22, 1991.]

Mr. SZABO. We understand you are working with them. We encourage all Members to join you in this effort, and we look forward to working with you on this important issue.

[Mr. Szabo's statement may be found in the appendix.]

Chairman LAFALCE. Thank you very much.

The next witness will be Mr. Wayne Ashworth, the President of the Virginia Farm Bureau, representing today the American Farm Bureau Federation.

TESTIMONY OF WAYNE ASHWORTH, PRESIDENT, VIRGINIA FARM BUREAU FEDERATION, REPRESENTING AMERICAN FARM BUREAU FEDERATION

Mr. ASHWORTH. Thank you, Mr. Chairman, and members of the committee, and especially Congressman Olin for staying. It is a privilege and honor for you to stay and hear my comments.

I am Wayne Ashworth, president of the Virginia Farm Bureau and member of the American Farm Bureau Board of Directors. Certainly, I appreciate the opportunity to be with you this morning to the share Farm Bureau's concerns about this important topic, wetlands.

I will be talking about Virginia, and all the other States, of course, are affected. Virginia is blessed with a wide variety of soil types and wildlife habitat, from the mountains, to the Piedmont, to the coastal plains. It is here in the coastal plains that the issue of wetlands is having the greatest impact.

Three factors combine to cause conflict. The first is, as we have heard this morning, the occurrence of hydric soils. These soils are most agriculturally productive soils routinely producing 150 bushels of corn per acre. Much of this land has been cleared, ditched, and drained over a 200-year period. In fact, the Federal Government encouraged and cost-shared in the effort up until 1986.

The third factor involves population distribution. Since much of the Nation's population lives within 50 miles of this coastline, the greatest demand for development is in the coastal plains, as we have heard this morning. This, in turn, may add substantial value to farm land for development.

These three factors did not cause much of a problem prior to January 1989. Until then, the U.S. Army Corps of Engineers had limited its regulation to true marshes, swamps, and bogs. These wetlands are generally recognized as valuable.

Virginia has tens of thousands of acres of both salt and fresh water marshes and swamps where we find cyprus trees, lily pads, and other water-dependent plants. Protection of these resources is reasonable and desirable in the eyes of most farmers.

However, in January 1989, the four Federal agencies involved in wetlands regulation—EPA, the Corps of Engineers, SCS, and the U.S. Fish and Wildlife Service—adopted the Federal Manual for the Delineation of Jurisdictional Wetlands. This was done, as we heard, without notice and opportunity for public comment or congressional oversight. Nevertheless, this new manual brought 60 million acres of cropland under regulation as waters of the United States.

It did this by expanding the definition of a wetland. The manual set out three criteria that land must have to be defined as a wetland:

One, it must have hydric soils.

Two, it must have a water table within 18 inches of the surface for 7 consecutive days during the growing season. No longer do you have to get your feet wet walking the wetlands. In Virginia, it resulted in the growing season defined as beginning February 1. This is basically the middle of winter; and in eastern Virginia and much of the country, you will often find water within 18 inches of the surface through March.

Three, it must have wetlands vegetation except in "disturbed areas." The manual calls farm fields "disturbed areas." In "disturbed areas" the manual assumes that vegetation could grow there. Also, the list of wetlands vegetation includes not only water-dependent plants such as cattails, lily pads, and cyprus trees, but also includes water-neutral and upland plants such as oaks, maples, and gum trees, as well as loblolly pine.

There now exists a Federal definition of wetlands that includes a great deal of land that no one would ever recognize or consider to be a wetland. In Virginia and around the country, this is having a profound adverse effect on farmland values and overall economic growth. Let me cite two examples of problems that farmers are having with section 404.

First, section 404 (f) of the Clean Water Act allows normal farming practices to continue on "farmed wetlands," but prohibits the conversion to any other use without a permit. The intent of this section was to allow ongoing farming operations to function normally without the need for a multiple of permits. However, it is clear that field offices are interpreting this provision in an increasingly narrow manner, and eroding the earlier intent of Congress.

Second is the issue of "prior converted cropland." This is land that has been drained and no longer exhibits any wetland values or functions. The 1989 delineation manual suddenly caused this land to be classified as a jurisdictional wetland because it had a hydric soil. That action effectively stripped farmland of its development value. Farmers who had, for years, put up with encroaching suburbia, who had kept farming through the lean years only because they thought their land was an appreciating asset saw their net worth wiped out with the stroke of a bureaucrat's pen. This affected their ability to borrow operating money. It destroyed their retirement security as well as their ability to meet other financial crises.

In a welcome decision last fall, the Corps of Engineers revised its interpretation and declared that prior converted cropland will no longer be regulated under section 404. In so doing, we hoped they had recognized our basic argument that prior converted cropland no longer functions as a wetland, and should not be subject to 404 jurisdiction. However, it is evident that they still do not intend to implement this in a commonsense and rational manner.

To correct these and other problems, several changes to section 404 of the Clean Water Act are needed. Among them are:

One, a definition of exactly what kind of wetlands constitute waters of the United States. We believe the current wetlands delineation manual is seriously flawed and should be opened for a formal rulemaking with full public comment. Specifically, wetlands should be saturated at the surface for a period of at least 21 consecutive days during the growing season in years of average rainfall in at least half the number of years records are available. Current interpretation is saturation within 18 inches of the surface for a period of 7 days, as we heard this morning. The growing season should be defined as the historical average of frost-free days within a particular geographic area. A wetland determination should require that obligate plant species [occurring at least 99 percent of the time in wetlands] and facultative wetland plant species [occurring at least 66 percent of the time in wetlands] constitute the majority of vegetation on site.

Two, a specific exclusion from regulation for all prior converted farmland.

Three, a clear definition of what constitutes normal farming practices. We suggest allowing land grant colleges and the extension service to establish a list of normal farming practices that allow for regional and agronomic variations.

Four, a recognition of private property rights and a process for compensating landowners for lost use of their property. The reality that most of these resources are on private property must be addressed if society now views them to be important. The fact that they may be rural open space does not remove the obligation to compensate landowners.

Five, a system of classifying wetlands that recognizes that not all wetlands have the same value or provide the same functions.

Finally, under the current regulatory interpretation of the President's goal of "no net loss," we have a new Federal regulatory program that detrimentally places wetlands above all other natural resources or economic uses. There is no balance. Why not "no net loss" of hardwood forest, desert, prime farmland, or beaches? Natural resource policy should seek to balance all competing ecological, social, and economic needs in a given situation. It should not occur blindly without regard to the values of the wetland, the proposed project, or the alternative site impacted.

I think we should adopt the "duck test" because in farming there are pot holes around in fields that ducks do not swim in; so, we think that some things need to be done.

I am looking forward to any questions you might have for me this morning. Surely, it impacts agriculturally in a big way, this wetlands problem.

[Mr. Ashworth's statement may be found in the appendix.]

Chairman **LaFalce**. Thank you very much.

I want to underscore the point you made, that it is a fundamental problem in dealing with the whole wetland issue under section

404 of the Clean Water Act. That act assumes you are dealing with waters of the United States. Therefore, because you can only deal with the waters of the United States, and in order to deal with as much land as possible, you must come up with a definition of wetlands which gives you jurisdiction over as much land as possible. But it doesn't take into consideration other factors.

You point out, why not "no net loss" of hardwood forests? We should have a hardwood forest "no net loss" policy. Why not "no net loss" of desert, "no net loss" of prime farm land, "no net loss" of beaches, et cetera, et cetera.

That really underscores the point I made that we are talking about land use policy, and we have to see wetlands within the concept of all types of permissible use of land. There are a lot of uses which land is good for and for which it should be preserved, wetlands being one of them.

But if all we talk about is wetlands, we won't have any balance, because we won't talk about anything else which that land might also be used for in order to have some type of tradeoffs between the other values which other uses could stand for and the values which true wetlands could stand for.

We need some type of balance.

Our next witness will be Dr. Jon Kusler, executive director of the Association of State Wetland Managers.

I am going to ask, because of the time constraints we have, if each of the witnesses could try, if possible—I don't want to be too strict—to summarize your remarks in 5 minutes apiece. I don't want to be too strict on that.

TESTIMONY OF JOHN KUSLER, EXECUTIVE DIRECTOR, ASSOCIATION OF STATE WETLAND MANAGERS

Dr. **Kusler**. Thank you, Mr. Chairman. I will try to deviate from the testimony and summarize my remarks.

The Association is a nonprofit technical organization that was established to assist the States in better applying science to the regulatory efforts. It consists of a lot of botanists, hydrologists, and so forth; so my comments are based on a lot of technical feedback and not so much planning policy.

We have conducted a lot of meetings. We had about 3,000 people in the meetings that we conducted or cooperated on in the last couple years.

Chairman **LaFalce**. Where is this association located?

Dr. **Kusler**. It is a Maryland corporation, nonprofit.

I happen to live in New York. In fact, I attended one of the New York State meetings near Buffalo and spent a couple days walking around the wetlands in Amherst and Lockport to see what things were like just a month ago. I happen to live in New York.

Chairman **LaFalce**. Is Patricia Riexinger, the person responsible for implementation of the wetlands program in the New York State Department of Environmental Conservation, your spouse?

Dr. **Kusler**. That is correct.

Chairman **LaFalce**. I just want to make that clear.

Dr. **Kusler**. By the way, we don't totally agree on everything, including my own testimony here.

Where does the State stand? We have had a chance to get a lot of feedback from the States. For instance, we were at a delineation workshop, which my spouse was not at, in Chicago with 23 States to try to apply the manual in September.

I would like to make a few observations, since the time is short. The first thing is that I have submitted fairly detailed testimony in a background paper. It was not developed for the committee, but it was developed for our members, and it will be the subject of meetings this spring.

The States will concede a lot of the problems that you have outlined in your testimony. I think there are substantial problems with the 404 program. However, I think that—maybe curiously, in light of the testimony I have heard—the States, overall, are quite supportive of the 404 program. They believe that many of the problems that we have heard here concern types of wetlands.

Specifically, the State of New York held hearings recently on new regulations all over New York, and they only had large negative feedback on those regulations in the Buffalo area. The reason was that Buffalo is in a situation which is—and you can find it in Virginia, Louisiana, and a lot of places—a highly altered wetlands process in connection with agriculture lands, which in many cases is stripped away from the wetlands, or if you don't call them wetlands, whatever you call them.

There is partial drainage. What is the problem with the delineation manual? Because it permits the delineation of many of these lands as wetlands, because they still have the hydrology in the soil, it means that the regulatory policies developed in the 404 program apply to these highly altered areas—and we are still applying them successfully, and they are working well for the larger, long lake streams, coastal areas and so on. But the opinion of the State people is that this failure to essentially bring up to speed some of these regulatory policies for altered wetlands is causing big problems.

I could be specific if I had more time, but whenever you have a highly modified hydrologic situation, everything from the compensation requirements to delineation are big problems.

Now, if I may make a comment about why the States are quite supportive despite—by the way, my wife happens to be very unhappy about the delineation manual at the moment because of the fact that she feels that what the State of New York was doing was in no way adopting the Federal manual. Most of the flak she gets has to do with the delineation manual. That is the long and short of it. She feels less sympathetic than I do.

But the States are faced with a dilemma that—if this were a different committee, the Congress, as a whole, is faced with it—New York has a budget problem; 17 States have freezes and everything else. They are not getting money from the Federal Government for flood control like they were.

Look at the omnibus water bill. They are put under new requirements in terms of storm water. They have to come up with a storm water management plan. So, these are not coming from the Federal Government.

There are a variety of problems. Take Amherst. I have been talking with town people there, and they have had a flood problem in

Amherst. I am not mentioning wetlands for the moment. The State people are saying we have serious problems with the application of the 404 program, particularly for altered wetlands.

On the other hand, we are trying to do something with storm water, with open space, with habitat; but often that is four or five down the list; and some of these lands that are very wet—I don't care whether you call them wetlands exactly—are relevant to the waters of the United States

We have to come up with management schemes that will meet multipurpose objectives. That is why I think people, State people, have not given up on these lands. They say there may be some kind of a valid Federal interest. Maybe we haven't worked out the right formula.

I would like to make some recommendations. One of the things the State people, as a whole, feel is that one of the problems with the Memorandum of Understanding, and maybe the delineation manual, is the gross solution where you suddenly apply large policies to whole categories and whole areas, often not resulting in a very sensitive development of multiobjective plans for an area.

For that reason, I think, there would be reluctance; and I can't say I polled the States in terms of decoupling the manual right now or throwing out the manual.

I can tell you why they have supported the manual to some extent and that is, the first thing is the incredible—there has been so much confusion with four Federal agencies having definitions and technical criteria for identifying wetlands.

The States feel that even if this manual isn't where it is supposed to be—and I will agree there is lots of disagreement on 7 versus 14 versus 21 days, depth of ground water, all these things; and nobody seems to have good feedback on what this all means in terms of what areas are covered or not—but they do feel that this direction is often very difficult to replicate.

If you say the Federal agencies can do their thing, again, we are back to where we were a couple years ago; and there was a lot of confusion with all these different agencies applying different criteria.

If there is a bottom line, what the States are interested in is let's do something to try to—and I suggested in my testimony a bunch of things that could be done, and some are not too different than what is being suggested elsewhere here—but let's craft, do solutions that are multiobjective and developed in the light of complexities involved. The bottom line, I think, for urban areas like Buffalo, is that you do need wetland management plans in which the State and the locals are taking the lead, but with Federal and State technical assistance.

If you are going to do flood control and storm water management and water quality, you need things that are crafted to the local situation.

I will conclude on that point. I have a bunch of other recommendations, but I feel in these highly altered wetlands contexts, you can't apply the same approach as you do elsewhere. You have to proceed from a science point of view. You have to take a much more comprehensive look at the situation in working out what policy you need for particular activities and lands.

[Dr. Kusler's statement may be found in the appendix.]

Chairman LAFALCE. Thank you very much, Dr. Kusler.

Our next witness is going to be Ms. Heidi Sherk. Ms. Sherk is an associate with The World Wildlife Fund and The Conservation Foundation.

TESTIMONY OF HEIDI SHERK, ASSOCIATE, WORLD WILDLIFE FUND AND THE CONSERVATION FOUNDATION

Ms. SHERK. Mr. Chairman, and members of the committee, I am Heidi Sherk, an associate with World Wildlife Fund and The Conservation Foundation. WWF is the largest private U. S. organization working worldwide to protect nature. We bring to the cause of international conservation over 1 million members and 40 years' experience in environmental policy research, communications, and field work.

I am extremely pleased to be here to talk about the National Wetlands Policy Forum convened by The Conservation Foundation. I would like to present some of their recommendations for improving wetlands management and protection in the United States and ask you to consider these recommendations as you address some of the current controversies.

Everyone said today, and I think we will all agree, wetlands are immensely important, not only to the environmental health of the Nation, but to economic health as well. Yet, we need to remember that we continue to lose these wetlands at an alarming rate.

The policy forum was convened by The Conservation Foundation at the invitation of EPA. It was chaired by Governor Kean of New Jersey and included two other State Governors; several other State officials; farmers and ranchers; representatives from the timber, oil, and construction industries; conservation groups and the relevant Federal agencies who serve as ex officio members.

As you can see, this is a broad and diverse group and what brought them together were two things. One was a shared perception that wetlands are indeed important and the other was their shared frustration with existing programs.

Development interests were concerned about the lack of consistency, predictability and timeliness. All things we have heard about today. The conservation interests were concerned about the lack of adequate protection.

This group worked together for over a year and achieved consensus on over 100 recommendations. They issued their final report in November 1988, which called for sweeping reforms.

As a follow-up to the report, they issued a concept paper on Federal legislative reform which had more specific recommendations. I would like to ask that both the final report and the concept paper be included in the record.

[The report and concept paper may be found in the appendix.]

Ms. SHERK. The forum's recommendations require us to take a step back from the specifics of the current controversies and look at the bigger picture.

What the forum tried to do was deal with the underlying problems and not just the symptoms.

Their recommendations remind us that we cannot get snarled in the details of the current controversies, but we need to work toward a broader and enduring solution to current problems.

Today, speaking on behalf of World Wildlife Fund and Conservation Foundation, I would like to highlight what we believe to be the principal interests of the forum. I would like you to keep these in mind as you address the specific issues of wetlands regulations and small business, and also as you work with Congress on the reauthorization of the Clean Water Act in 1992, which provides real opportunities for implementing some of the forum's recommendations.

I am going to talk about four major themes and also present some specific recommendations for changes to the Clean Water Act.

The first theme, and the one that underlies all the other themes, is the need for balance. The forum emphasized that any changes need to respond to the needs of conservation and development interests. The forum proposed a package of recommendations which does, in fact, achieve this balance.

Second, and certainly probably the most well known of the forum's recommendations, is the need for a national goal.

Most environmental programs have clear goals. For the Clean Water Act, the goal is fishable and swimmable rivers. These goals provide a consistency and focus for programs and also provide a benchmark against which progress can be measured.

The forum recommended as the short-term goal, no overall net loss of wetlands; and as the long-term goal, net gain. This goal has been widely embraced, repeatedly by President Bush, most recently in his fiscal 1992 budget, which calls for "increased funding to support the President's goal of 'no net loss' of wetlands."

"No net loss" is a flexible goal. It recognizes losses will continue, but just demands that these losses be offset. The forum didn't intend that the regulated community bear the burden to compensate for the losses, and they recognized that different parts of the country would take different amounts of time to achieve the goal. But they felt, given the current situation of losing 300,000 to 500,000 acres of wetlands a year, that we needed a strong goal to abate this loss.

I would like to urge Congress in the reauthorization of the Clean Water Act to enact a "no net loss" for section 404 to guide the program and be a prerequisite of the States' assumption of 404.

A third theme is that conservation efforts and wetlands protection must be comprehensive. This is in contrast to our current piecemeal approach.

Comprehensive programs will require that we identify all the losses, not just the most conspicuous ones, and that we use all available tools. To do this we will have to strengthen traditional tools and develop new ones.

Regulations will be an important part of our effort, but regulations must be more effective and more efficient. To become more efficient, regulations need to be streamlined.

The forum suggested the issuance of regional general permits for lower value wetlands, more coordinated decisionmaking among agencies, and use of mitigation banks. At the same time, and just as important, regulation must be made more effective. Section 404 should cover more activities, including draining, flooding, and clearing of wetlands. Mitigation requirements should yield "no net loss," and there should be better enforcement.

We urge Congress to amend 404 to reflect these recommendations to both strengthen and streamline the 404 program.

I think we all realize that regulations alone are not enough. Nonregulatory measures are equally as important. Outside of the State of Alaska, the majority of wetlands occur on private lands. What we need to do is encourage more private stewardships, through tax incentives, subsidies, and tools to relocate development.

We also need to improve our stewardship on public lands. There needs to be better management of wetlands on public lands, and we need to be assured that Federal programs never subsidize the destruction of wetlands.

One thing to keep in mind is that the more effective we can make the nonregulatory programs and encourage voluntary, private protection, the less need there will be for regulatory programs. Despite our best efforts, some wetlands loss is inevitable; therefore, "no net loss" requires ambitious restoration and creation efforts as well. We recommend that these be undertaken as a part of public-private ventures.

The key to the success of using all these tools will be to implement them in a coordinated way. The Forum recommended that States develop statewide, comprehensive strategies. This leads to the fourth and last theme for today, which is the important role for States.

The forum recommended that States develop State comprehensive strategies which would be a flexible tool to achieve "no net loss" in the manner best suited to the State. The strategy would catalog the State's resources and outline policies to meet the "no net loss" goal. It would work to coordinate the disparate authorities that now deal with wetlands and draw upon regulatory as well as nonregulatory programs.

The forum saw that States were in the best position to do this for a couple of reasons. The States are more familiar than the Federal Government with their wetlands resources and also their economic needs. States, along with their local governments, also have a wide variety of tools they can use, particularly nonregulatory tools, property tax incentives, land trusts, et cetera.

The key behind these strategies is that States should be given flexibility to craft these plans to make them best suit their own needs.

The forum went on to recommend some changes to State assumption of 404 and recommended that it be based on the development of these comprehensive strategies at the State level. The forum also urged that States be allowed to assume portions of the 404 program as well as the authority over navigable waters.

In the Clean Water Act reauthorization, we would like to recommend that the Federal Government help States develop stronger wetlands programs. They can do this by providing funding and technical assistance to States to develop statewide strategies and also by reshaping the assumption requirements for 404.

The forum achieved what is considered to be a broad and historic consensus on a very, very bitter issue; and the key to their consensus is balance. They linked measures such as making regulatory programs more efficient with making them more effective. What they do is provide us a framework; and, within that framework, we can work to create a more coherent, predictable, and efficient policy, one that will support the economic as well as social needs of the country; and it is in this balanced package of reforms that lies the best hope for addressing the current conflicts and for breaking the logjam that stymied past attempts to reform wetlands protection.

Thank you.

[Ms. Sherk's statement may be found in the appendix.]

Chairman LaFalce. Thank you, Ms. Sherk.

Our next witness is Mr. John Plummer, President of Mulberry Hill Development Corp. and John H. Plummer Associates. He represents, today, the Associated Builders and Contractors, Inc.

TESTIMONY OF JOHN H. PLUMMER, PRESIDENT, MULBERRY HILL DEVELOPMENT CORP., ON BEHALF OF ASSOCIATED BUILDERS AND CONTRACTORS

Mr. Plummer. Thank you, Mr. Chairman. As you mentioned, I am representing the Associated Builders and Contractors. We represent over 18,000 contractors and related firms across the country, 95 percent of which are classified as small businesses. We would like to thank Chairman LaFalce for his leadership and thank him and the members of the committee for bringing the wetlands issue to the forefront.

ABC recognizes the environmental values of wetlands, and is concerned about the recent estimates of significant wetland loss. We support efforts to protect legitimate wetlands, but believe a more streamlined and efficient process is in order.

The regulation of wetland use has been established piece by piece—one fix, one place at a time—as the ecological importance of wetland areas was realized and became increasingly valued. The preservation of wetlands is governed by four different Federal agencies and 32 States have additional laws in place which address wetland issues.

Unfortunately, as mentioned by many witnesses, this policy has done little to help formulate one clear policy. The manual has done more to confuse rather than to clarify, and I speak now as president of Mulberry Hill Corp. who was one of those corporations that was affected drastically by implementation of the manual on a project that we have in Easton, Maryland.

We have a project called Mulberry Mews about 75 miles from here. It is a single-family subdivision in the town of Easton, consisting of 62 acres of land located 450 feet from U.S. Route 50. It is connected to U.S. Route 50 by a 100-foot right of way, which we were going to use for access.

We acquired this property in the summer of 1988. We went through the subdivision process, received all approvals necessary—including that of the Soil Conservation Service—in February 1989, 1 month before the manual was put into effect. It permitted us to fill every square inch of our 62 acres.

We entered into a contract for construction, which began in early July. We had over 60 lots sold at the time. On the 19th of July we were visited by the Corps of Engineers and were advised that we were operating in jurisdictional, nontidal wetlands as defined by the 1989 manual and handed our cease and desist order.

This order prevented us from not only developing the wetland areas, but also the upland areas, because the wetland areas, as defined, cut across our 100-foot right of way and denied us access to any public road.

As a result, we began scrambling and were able to acquire another piece of property adjoining ours which would enable us to connect to another public road. In order to acquire the land, we had to subdivide it from a larger piece and again go through the subdivision process for that piece. That took approximately 7 months, and after that we acquired the land at the cost of $300,000.

We then proceeded to go ahead and resubdivide the original subdivision and also the additional lands that we acquired out of necessity to gain public street access.

While all this was going on, the bank was still there and demanded their interest payment of $6,500 a month, which we have been paying since July 1989. We are now at the point where we have received preliminary plat approval and have prepared our construction documents, which are now in for review by all the appropriate agencies.

We anticipate we will be back to the point we were in July, 1989 in approximately 2 more months.

The Federal manual for identifying jurisdictional wetlands is set forth as technical guidance. As has been mentioned time and again, this was done without public notice and without public comment. In actuality, this manual dramatically extended the jurisdiction of the EPA and the Corps of Engineers over an additional 60 million acres of land by their own admission.

Because of this lack of rulemaking by the Federal Government regarding the manual, my corporation filed suit against the Federal Government in October 1989. The practical impact on the corporation since that time has resulted in about $430,000 in additional expense. Fortunately, being an engineer and land surveyor, I was able to do my own subdivision and not incur those costs, which would have been another $150,000. All of these added costs will have to be passed on to the remaining lots in our subdivision when we finally come to market.

I am sure you can see the impact the change in interpretation has had on us; and I consider myself very fortunate that we had the resources, both financial and professional, within our own group to see us over this hump.

The Memorandum of Agreement on Mitigation further extended wetlands regulations by requiring extensive impact analysis for permit approval in wetlands. The results have been long delays and canceled projects.

Another personal experience: I was told by the Corps of Engineers in our district that they didn't feel a 3-year permitting process was unreasonable at all. It is obvious that a comprehensive wetlands management initiative is necessary to clarify, consolidate, and improve upon current law. The layers of regulatory authority over wetlands protection must be streamlined.

ABC supports a fair and balanced approach to classifying wetlands, which takes into consideration environmental benefits and economic security for property owners. We also recognize that all wetland areas are not equal, that a priority system should be instituted and clear definitions must be articulated. The permitting process should be clear and reasonable timetables set forth to allow for critical planning functions.

We support a mitigation banking system. We also believe in compensation to land owners who have had their lands, in effect, taken from them by the regulations in this manual.

Regarding the administration of the law; in my area, the Corps of Engineers has one person operating with an answering machine in his office. It takes him weeks to return a phone call. To leave the administration of wetlands in a situation like this is wrong. From a practical point of view, I feel management of the program has to belong with the States or local governments, because you cannot get in touch with the Corps. It is just like they were on the dark side of the moon; it just doesn't function.

On behalf of the ABC, I would like to thank you for having me here. I am available for any questions.

[Mr. Plummer's statement may be found in the appendix.]

Chairman LaFalce. Thank you very much, Mr. Plummer.

Our next and final witness will be Mr. James Crook, vice president of W.W. Boxley Co., again of Virginia, representing the National Stone Association.

TESTIMONY OF JAMES O. CROOK, VICE PRESIDENT, ENGINEERING, W.W. BOXLEY CO., REPRESENTING THE NATIONAL STONE ASSOCIATION

Mr. Crook. Thank you, Mr. Chairman. My name is James Crook, and I am vice president of Engineering for W.W. Boxley Co. W.W. Boxley Co. operates stone quarries in Virginia. I am a registered professional engineer in Virginia and West Virginia; and today, as you mentioned, I am representing the National Stone Association, where I have served as chairman of their operations division.

I am pleased to have this opportunity to testify before your committee to discuss the concerns of our industry and the current method of regulating wetlands.

The National Stone Association [NSA] is a national trade organization representing crushed stone and other aggregate producers. We have 480 members representing over 70 percent of our industry's output. U.S. Bureau of Mines data show that in 1989, 1,716 companies, with 3,416 operations and 69,000 employees, produced over 1.2 billion tons of crushed stone in the United States. Most NSA members' operations employ fewer than 20 people, and most of them qualify as small businesses, and many are family-owned, such as the company I work for.

I have a full statement with an attachment, and I will try to keep my oral statement brief and to summarize the full package.

[Mr. Crook's statement, with attachment, may be found in the appendix.]

Mr. **Crook**. Crushed stone is produced by a member company and is used in construction of roads, highways, airports, buildings, and homes. It is a very essential product and is produced in 72 percent of the counties in the country and in every State but Delaware.

Industry and small business has three specific needs if it is to be an effective partner in implementing a national wetlands policy. First, industry and small business need clear, stable criteria, so that business decisions can be made within a known, stable framework.

Second, industry and small business need a responsive, consistent regulatory climate. Time is money, and time spent obtaining permits and meeting other legitimate regulatory needs represents a cost that uses up scarce resources that could be channeled to productive uses in other areas. Excessive permitting and regulatory time should be reduced as much as possible.

Three, industry and small business need some reasonable period of time to adjust to new regulatory requirements, such as those imposed by the Federal Wetlands Delineation Manual and the Memorandum of Agreement between the Corps of Engineers and EPA.

In the crushed stone industry, operations are carried out at particular locations over long periods of time. One of our operations has been continuously at the same location for over 70 years. Changing these operations to meet new requirements, we need a realistic phase-in period built into the process.

The current situation under the Federal Manual for Identifying and Delineating Jurisdictional Wetlands and the Memorandum of Agreement on Mitigation violate all three of those criteria I have mentioned above.

The crushed stone industry recognizes the importance of the Nation's wetlands and the benefits they provide to all of us. We believe a national wetlands policy goal must be implemented in a manner that provides for regional variation and control to recognize regional differences in our large and diverse country. Any appropriate strategy must balance economic and environmental impacts, allow for reasonable and consistent identification of wetlands, and recognize the need for meaningful regulatory reform that includes nonregulatory incentives for protecting wetlands.

We believe the opportunity exists within our industry to eventually create and replace wetlands as part of our long-range operations, once adequate research has been done to determine how to create them properly and cost effectively. This is very important, and they need a consistent and responsive regulatory climate.

We believe that thematic considerations need to be included in the development and passage of legislation setting forth a national wetlands policy and promulgation of public-developed—I underline "public-developed"—rules implementing that law.

We believe that industry and small business can be a constructive, creative, and contributing party in developing and implementing a sound, realistic national wetlands policy.

I appreciate the opportunity to give my testimony. Thank you.

Chairman **LaFalce**. Thank you very much, Mr. Crook.

I want to thank all the members of this panel for their testimony and their fine presentations and their valuable contributions to the deliberations of this committee and the Congress. Because of time constraints, I will not submit any questions to you at this point, but I repeat my thanks and call this hearing at an end.

Thank you.

[Whereupon, at 12:20 p.m, the committee was adjourned, subject to the call of the Chair.]

APPENDIX

TESTIMONY OF DAVID A. BRODY ON BEHALF OF THE NIAGARA FRONTIER BUILDER'S ASSOCIATION HOUSE COMMITTEE ON SMALL BUSINESS FIELD HEARING LOCKPORT, NEW YORK JANUARY 22, 1991

Mr. Chairman, members of the Committee, thank you very much for having me here to speak to you today. This issue is of vital importance to small business here in the Niagara Frontier and across the nation. I applaud this committee and its chairman for your insight and recognition that something which seems at first to be a simple matter of environmental concern does, in fact, have a serious and harmful impact upon small business.

My name is David Brody. I am an attorney practicing law in Buffalo, New York. I am and have been a committed environmentalist since I was in high school in the late 1960's and early 1970's when I was involved in organizing activities for the first Earth Day. In law school, I was a Sea Grant fellow and in that capacity, was involved in an analysis of the public participation program instituted as part of the adoption of the Coastal Zone Management Program in Western New York. Insights gained into the importance of public participation in the legislative and regulatory process during that time are very relevant to what I have to say to you today.

After law school, I worked for 2½ years as a legal analyst with a major national environmental consulting firm. I handled regulatory compliance and permitting issues for projects ranging from pipeline and major energy facility construction to hazardous waste cleanup and design of an environmental control agency for a new city in Saudi Arabia. I advised clients and company staff regarding various federal and state environmental requirements including specifically the permitting programs under Section 404 of the Clean Water Act and under the New York Freshwater Wetlands Law and State Environment Quality Review Act. Since 1983, I have been a practicing attorney. The bulk of my work involves real estate financing and development and project construction. My clients include many individual property owners, banks, builders and developers. I am a former member of the Erie County Environmental Management Council having been appointed to that position by both Republican and Democratic administrations. I am a member of the Erie County and New York State Bar Association sections on real estate law and environmental law and I am a member of the Niagara Frontier Builders Association, the New York State Builders Association and the National Association of Home Builders.

I am here to speak with you today both because of my personal interest and concern about this problem and on behalf of the approximately 400 small business people that are members of the Niagara Frontier Builder's Association.

THE NIAGARA FRONTIER BUILDER'S ASSOCIATION

The Association is a not-for-profit trade group representing the interests of the building, development and associated industries in Western New York. At the present time, we have 147 builder members, over 200 associate members and 30 institutional members. The associate and institutional members are comprised of people in allied fields such as plumbers, electricians, carpenters, concrete contractors, masons, mortgage finance, building products and services, utility companies, planners, architects, appraisers and attorneys. The Association is committed to the continued growth, prosperity and quality of life within Western New York and is also the local voice for home ownership and private property rights. We want it to be very clear that the membership of our Association is also strongly committed to the goal of environmental protection. Most of us have children and we want our children to grow up in a better world.

Even our largest members, with the exception of a few of the banks in our organization, must be considered small businesses by national standards. The average number of homes built by our builder members in a normal year is about 15. Our largest member only builds about 200 homes in a good year. The vast majority of these home builders grew up in Western New York and stayed here through some pretty rough times in the 1970's. They live in our community and have a vested interest in providing a continued quality of life and excellence in the product they deliver.

THE CRISIS IS OVERWHELMING

Gentlemen, our members are scared. Having survived the difficult times of the late 1970's and early 1980's, they have finally begun in the last few years to prosper. The promise offered to Western New York by the U.S/Canada Free Trade Agreement made our futures look bright. Even after economic forecasts began to turn down on a nationwide basis, our projections remained encouraging. Western New York would finally enjoy its place in the sun. However, since late July and early August, that optimism has been replaced by increasing pessimism and for some, despair. The actions of the Army Corps of Engineers and the New York State Department of Environmental Conservation have created a climate of tremendous uncertainty and confusion. The stock of building lots that will be available for home construction in the Spring of 1991, from our best estimates at this time, will be only 1/3 of what would have been available had it not been for the sudden and unexpected change in the Corps' enforcement policy, which took place last summer.

For the first time in my career, I am getting calls on almost a daily basis (and my experience reflects the experience of other attorneys who do the same kind of work) from clients of mine who are builders or developers who have been threatened with lawsuits by their contractors, suppliers and materialmen. I am receiving calls from clients of mine who are subcontractors and suppliers who are asking me how to go about placing liens against developers and builders. These are people who have worked together for periods of 10-15-20 years.

* As an example, we have a client who puts in infrastructure, sewer pipe, roads, etc. This client did a job for a major developer in the area. Even though all of this developer's state and local approvals had been obtained, construction had commenced and the infrastructure improvements had been put in, the developer's project was shut down by the Corps. As a result, my client has not been paid by the developer and therefore, cannot pay her supplier. Her supplier will not supply pipe to her for her to do another job even though that job does not have a wetlands problem.

Many scores of small businesses in Western New York have been forced to lay off employees and some are on the brink of bankruptcy. If something is not done virtually immediately to resolve this issue, you can expect to see a significant increase in the number of bankruptcies filed in the building industry. I would remind you that the construction industry is the largest industry in the United States. While home building is only a part of that, all other aspects of the construction industry are equally affected.

* Let me give you another example. Two concrete contractors that some of my clients do business with have advised me that they have virtually no jobs lined up for the Spring. In a normal year, by this time, they would be booked through June or July. In reviewing the situation with their usual customers, they attribute the problem to wetlands.

* Currently, two projects in the Audubon Industrial Park have been put on hold due to Corps regulations. This is an industrial park which is 95% developed. This represents $8 million in total expenditures and a total of 345 jobs.

* In another Amherst park, 14 potential projects with an estimated value in excess of $14 million, are on hold.

I would ask that you hold the record open for a period of time after the hearing so that additional data and specific examples can be submitted.

THE PROBLEM IS THAT THE RULES HAVE CHANGED

For many years, we have been lead to believe by government agencies at the state, federal and local levels that we were doing things the right way. All of the sudden, we have been told that the way in which we did things, the way in which we planned, the way in which we did our economic projections is simply wrong. Without warning, we have been forced to change horses in midstream.

IN THE MIDDLE OF THE STREAM, THEY TOOK AWAY THE HORSE

In May 1990, the Town of Lancaster, acting as designated Lead Agency under the Coordinated Review Process pursuant to the State

Environmental Quality Review Act, gave a negative declaration to one of my client's subdivisions. Coordinated review means that all state and local agencies that might have an interest in the project are supposed to be notified and within 30 days, to respond with any comments they may have on the project. Both the State Department of Environmental Conservation and the County DEP were notified. By June, all permits and approvals were in place except the County sewer approval, which was bogged down because of recent changes in the County's procedures and personnel. On August 1, having been told by officials of the Sewer District that approval was forthcoming, my client closed on the property fully expecting to be building shortly.

On September 5, the project engineers were informed that the County DEP would not process the sewer application without a separate delineation letter from the Corps. I should point out here that we were ready to go into the ground at that point and that those subdivision lots would be ready for closing now had all gone according to plan. Then, to our surprise, on November 1, DEP approved the sewer district. During the interim, we had submitted nothing to the Corps of Engineers. So, the issuance of this permit really represented a change of policy. However, as we looked into the situation, we found out that the Corps had agreed that the DEP would no longer be required to hold up permits. They could issue the permits as long as they notified the Corps of Engineers that there might be a wetlands concern.

For the developer, this meant that the sewer approval was no longer the last step before construction. The developer would still have to go to the Corps and do a delineation. At the same time, we were told by the Corps that any delineation that was not done before November 15 could not be done until after March 15 because the on-slaught of cold weather reduced the quantity of vegetation necessary to properly determine whether or not a wetland exists. We scrambled around and we got the consultants out onto the site before November 15. The study has now been done and is about to be submitted to the Corps. These studies take about 45-60 days from field work through completion of the report. We are being told, at this time, through our consultants that the Corps will not even schedule a pre-application meeting. The report should be submitted in the next week and we hope the report will be processed in four to eight weeks. The report shows that there is approximately 1½ acres of wetlands on the entire 12.3 acre parcel and that the subdivision will only impact about ½ acre of that wetland area.

This clearly falls within the structure of the nationwide permit system and I expect that we will ultimately obtain a nationwide permit and be able to proceed. However, as you can see, we have lost a significant amount of time. My client expected to be in the ground by September 1 and to be closing lots by December or January. As it is, it looks like they will not actually start closing lots for another few months. That loss is costing the investors several thousand dollars per month. That money is not going anywhere. It is the carrying cost of the money to the investors. The interest being earned, for the most part, only reimburses the bank for its cost of borrowing. It is totally non-productive to the local or national economy. This is no way to run a business, but the government's actions are compelling this result.

While all of this was going on, the same thing was happening to many other builders and developers in the area. I have several examples for you that I will submit separately. We formed a Wetlands Task Force at the Builder's Association in August of last year to discuss and deal with this problem. It soon became clear that a complex new regulatory program had been dropped on us without any reasonable notice.

DEVELOPMENT DECISIONS WERE STRAIGHTFORWARD BEFORE LAST JULY

Let me tell you a little bit about how developers were making decisions prior to July 1, 1990. At that time, the subdivision approval process in New York was straightforward. There were differences among individual jurisdictions but basically, the process involves preparation of a preliminary design concept which is submitted to the municipality. The municipality gives you some initial advice on design changes, then you make your formal application. The municipality normally would request lead agency status under the requirements of the State Environmental Quality Review Act. Most of the time, the state agencies acquiesce in that decision. The municipality then becomes lead agency and its decision on the approval is final with the exception of final engineering detail and construction approvals. This process generally took about six months. Prior to entering into this process, the builder or developer had contracted for the land, had done its hazardous waste due diligence, and had checked the archaeology, the DEC wetlands maps, the National Wetland Inventory maps and the flood plain maps.

If during the coordinated review process (prior to July of last year), the DEC looked at their maps and said "gee, there might be some federal wetlands here", they would notify the Corps of Engineers. Most of the time, the Corps would decline to get involved. Occasionally, they would send out a letter that said there were some wetlands problems and "please get in touch with us". For the most part, DEC did not even contact the Corps and when the Corps chose to get involved, the developer was wading in a genuine swamp. Nonetheless, the Corps almost never took an interest. One of my colleagues who has done hundreds of subdivision and site plan approvals in the last 10 years had never once seen the Corps express an interest. In talking with various engineers around the area, I have had trouble finding any who had seen more than one or two cases of Corps involvement in their entire careers related to this kind of subdivision approval. A major industrial development or commercial development like the Galleria Mall is another story. But those are situations in which people expected to get into these issues. After July 1, 1990, we were thrust into a situation in which virtually every project of any size in Western New York had to go through a wetlands delineation and review by the Corps.

HOW THE DELINEATION PROCESS WORKS

I am going to be very perfunctory here because you have experts who are much more knowledgeable about this process. What I will give you is a developer's view that I think is necessary to understand the rest of my presentation. The delineation manual provides for what we call a "3-parameter test" to determine whether or not you have wetlands. It has to do with the types of soil, the hydrology of the area and the vegetation. The soils test is fairly involved, but the issue with soils is whether or not you have hydric soil. There are three classes of soils relevant to the delineation process. These are hydric soils, soils with potential hydric inclusions and non-hydric soils. The difference has to do with water absorption and holding capacities and so forth. For my purposes, it is sufficient to state that the Corps of Engineers is concerned about hydric soils and soils with potential hydric inclusions because these are the soils in which you may have wetlands. It is my understanding that in 95% of the cases where you have hydric soils, you will find wetlands. The designation of soils with potential hydric inclusions means that there are mixed soils, hydric and non-hydric, and that there are little segments of hydric soils within those areas which, due to the scale of the soil survey maps, cannot be individually mapped.

Under the delineation manual, the Corps of Engineers has potential jurisdiction any time that you have either hydric soils or soils with potential hydric inclusions. Thus, the distribution of those soils in a particular area becomes very important. Based upon the advice of some of our local experts, including one of the authors of the Erie County Soils Manual, and working from the information provided in the Erie and Niagara County Soils Manuals prepared by the Soil Conservation Service, we have determined that Erie County is 13% hydric and Niagara County is 21% hydric. There are potential hydric inclusions over 40% of Erie County and 43% of Niagara County. This means that you are going to have to do a delineation under the Corps program on over 53% of Erie County and 64% of Niagara County.

These numbers are a little misleading for two reasons. One, is that the bulk of those areas that just have potential hydric inclusions will not prove to have hydric soils and therefore will not be jurisdictional wetlands. However, even though the bulk of those lands will not be wetlands, anyone owning those lands still has to go through the Corps process and spend the time and money to do it before they can develop the property. The other misleading factor is that these soils do not occur in nice little rectangular parcels. Again, our experts estimate that if you were to divide Erie and Niagara Counties into parcels of 10 acres or more, 75-80% of those parcels would include hydric soils and soils with potential hydric inclusions. If you were to divide the two counties into 100-acre parcels, 95% of them would have hydric soils or soils with potential hydric inclusions. That means that for 95% of the 100-acre parcels in Western New York, you are going to have to go through the Corps delineation procedures. Whether or not they turn out not to be wetlands, you are still faced with the bureaucracy and most importantly, with the time element. (these statistics apply outside of the Cities of Buffalo, Niagara Falls and Lackawanna and parts of Tonawanda. Those areas, I believe, have not yet been mapped.)

If you are going to go out and buy a parcel, the first thing you do is what we refer to as a "desktop delineation". You examine the soils book to see if there are any hydric soils or soils with potential hydric inclusions, check to see if the area is contiguous to or within a wetlands under the National Wetlands Inventory or DEC State Wetlands map or is within the 100-year flood plain. Using those additional criteria, we find that the percentages I just gave you do not change too much. Furthermore, we find that major areas of non-hydric soils are largely isolated in areas of the counties that are fairly far from development and not economically feasible to develop at this time.

THE PRESENT §404 REGULATIONS ARE NOT THE RESULT OF CLEAR LEGISLATIVE INTENT

All of this arises from a small section of the Clean Water Act, Section 404(a)(33 U.S. Code, Section 1344(a)) enacted in 1972 which states "The Secretary may issue permits, ... for the discharge of dredged or fill material into the navigable waters at specified disposal sites."

After enactment of the statute, the Corps of Engineers, having had all of its experience with traditionally defined "navigable waters", focused on that concept and drafted regulations that ruled out jurisdiction over those waters not normally considered navigable.

In a District Court case in the District of Columbia in 1975 titled National Resources Defense Council, Inc. vs. Callaway, 392 Fed. Supp. 685 (1975), various conservation groups brought an action against the Secretary of the Army stating that he was defining §404 too narrowly. In a terse decision which occupies barely more than one column in the federal case reporter, the Court stated:

> "Congress, by defining the term 'navigable waters' in Section 502(7) of the Federal Water Pollution Control Act Amendments in 1972, 86 Stat. 816 33 USC Section 1251 et seq. (the "Water Act") to mean the 'waters of the United States, including the territorial seas' asserted federal jurisdiction over the nation's waters to the maximum extent permissible under the commerce clause of the Constitution. Accordingly, as used in the Water Act, the term is not limited to the traditional tests of navigability."

The Court then ruled that by construing navigability too narrowly, the Corps of Engineers had effectively changed the statutory definition without authority, and by having done so, acted unlawfully. The Court ordered the Corps to revoke its then current regulations which limited permit jurisdiction to traditionally navigable waters and ordered the Corps to publish new regulations within 15 days which would expand the program to cover the "waters of the United States". From 1975 through the mid-1980's, various cases were litigated which gradually expanded the definition of "waters of the United States". (I am not going to go through all of those details now, but this issue will be covered in the additional information to be submitted.) An example is U.S. vs. Fleming Plantations in 1978 in which the Court held that an area does not have to be inundated by surface water to have adequate wetlands hydrology. Ground water as well as rain water could create adequate hydrology for wetlands. In addition, there are cases that have held that wetlands that are separated from navigable waters by roads, by land and by great distances can still be considered waters of the United States. The question arises whether there are any waters in the United States that are not waters "of the United States".

Over the last several years, up until late 1988, there was disagreement between the Corps of Engineers and the EPA as to the proper extent of jurisdiction and the proper means for determining where wetlands were located. In 1980, the EPA issued guidelines for permit applications which had a strong presumption against allowing alteration of wetlands. In 1982, the National Wildlife

Federation and other groups sued to invalidate the Corps regulations granting a nationwide permit to activities occurring in "isolated wetlands". (National Wildlife Federation vs. Marsh). Under the 1982 nationwide permit, the Corps essentially exempted from the program all "above head water" and "isolated wetlands" regardless of size. This meant that a landowner could fill any number of wetlands that were not "adjacent" to or were above headwaters of navigable waters without seeking Corps approval. The Corps' position was that because these waters had no connection with navigable waters, the plain language at §404 excluded them. In February of 1984, the Court approved a settlement of that case which required the Corps to create new regulations. These regulations provided that individual permits would be required for areas 10 acres or larger and provided for less onerous procedures on parcels of under 1 acre or 1-10 acres. The 1-10 acre process is discretionary, but the Corps can require an individual permit. It is significant that the parties settled because neither was really certain what the law meant. This is a blatant example of Court made law. Only the Congress has the perspective to sort out these problems.

At about the same time, the Fifth Circuit was deciding the Avoyelles Sportsmen's League, Inc. vs. Marsh, 715 Fed. 2d, 897 (5th Cir., 1983). In the Avoyelles case, the courts upheld the broad construction of the term "waters of the United States" to include "adjacent wetlands" which were to be defined by looking at the three parameters: soils, hydrology and vegetation. In 1985, the Supreme Court of the United States upheld key elements of the

Section 404 program in the case United States vs. Riverside Bayview Homes, 474 U.S. 121 (1985). The Court determined that the expansive view of the concept of "waters of the United States" was proper and within Congressional intent. The Court found the Corps conclusion that "wetlands adjacent to lakes, rivers, streams and other bodies of water may function as integral parts of the aquatic environment even when the moisture creating the wetlands does not find its source in the adjacent bodies of water" to be reasonable. We do not agree with the Court's positions on these matters. We do not believe that Congress ever realized the impact that this construction of the statute creates. We urge you to undo the damage done by the Courts.

Having addressed some important issues of judicial and bureaucratic overreaching, I would like to spend just a moment on some other problems that are raised by the Corps definition of wetlands, the exemptions provided for in the program regulations and the analysis required in the permit process in order to obtain a permit to fill wetlands.

The regulations of the Corps of Engineers define wetlands as:

> "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas."
> (33 CFR Part 328.3(b)).

While this last sentence concerns what we would all consider to be wetlands, in practical application under the Federal Delineation Manual, lands on which water pools for less than two weeks out of the year are considered to be wetlands. During most of the year, these lands do not have any water on them at all. If we were to walk through the woods and fields where these supposed wetlands are located through most of the year, we would have no idea that we had been in a wetland.

The definition has caused many problems of interpretation which have been handled through regulatory guidance letters, Memoranda of Agreement with the EPA and through the Federal Delineation Manual. The differing interpretation of these issues by different district offices within the Corps can lead to widely varying results in different parts of the country. Even within the Buffalo region, we get widely varying interpretations from different members of the staff.

Other important issues that you should pay close attention to as you review the materials that we and others will be submitting are the "isolated headwaters" issue, the "adjacent wetlands" issue and the "normal farming" exemption.

The many regulatory guidance letters and memoranda of agreement that have been issued should receive Congressional scrutiny. The policies represented by these documents have significant impacts on small business. They are enacted by the agencies with little, if any, opportunity for public input and without formal rulemaking procedures. For the most part, they are created by the courts and by tunnel-visioned bureaucrats carrying out personal agenda or driven by environmental interest groups whose motives may be sincere, but whose failure to understand the day-to-day problems of operating a small business leads to expensive, incentive stifling over-regulation. It is time for Congress to give adequate guidance to the Corps and the EPA and to force these agencies to comply with the Administrative Procedure Act and to seriously consider regulatory impacts of their actions with as much care as they now consider environmental impacts of development projects.

Finally, the Corps' procedure creates some serious problems. In the Attleboro Mall case (Bersani vs. EPA), the Pyramid Companies had applied for a wetlands permit. They had entered the market several years before looking for land on which to build a mall. They finally bought sufficient lands to continue with their project. However, when they did, it was found that there was a wetlands area within the site. The EPA vetoed the Corps permit stating that when Pyramid entered the market, there was another site nearby that the company could have attempted to purchase. That site did not have wetlands and would have been adequates for the mall. It did not matter to the Court that those lands were not for sale at the time. The Court upheld the EPA's veto stating that the failure on the part of the company to examine alternative sites before it purchased the property was a fatal flaw. The company was not allowed to attempt to mitigate or to create new wetlands.

When a developer purchases lands that are truly swamplands and that have extensive wetlands values, this analysis may be appropriate. However, under the new delineation manual, many lands that do not have the appearance of wetlands turn out to be wetlands.

This fact, combined with the holding in Attleboro case, creates an untenable situation for the developer in Western New

York. The developer who has wetlands on his property must be able to show that he examined all practicable alternative sites before he acquired the property. This means that he will have the expense of doing a wetlands delineation on the property that he wants to develop, and on several other properties so that he can determine which property has the least wetlands acreage. He is going to have to get all of those properties under some kind of contract or option. Small businessmen just do not have the money or the time to enter into this kind of review. Something has to be done about the impact of the Attleboro case on the process. The Court's theories about practicable alternatives are simply untenable.

THE FEDERAL MANUAL IS VAGUE, OVERINCLUSIVE AND ILLEGAL

Four federal agencies have authority over wetlands. These are the Soil Conservation Service, the Fish and Wildlife Service, the EPA and the Corps of Engineers. Only the Corps of Engineers issues permits. However, the EPA has a veto power over permits. The opinions of the Fish and Wildlife Service in particular, but also the Soil Conservation Service are sought in the permit issuance process. Until 1989, each of these agencies had different delineation procedures. On January 10, 1989, after protracted discussions resulting in large part from disagreements as to the meaning and impact of Court decisions, the four agencies adopted the Federal Manual for Identifying and Delineating Jurisdictional Wetlands. The manual become effective March 20,

1989. Much of the problem that our builders in Western New York are experiencing results from the fact that this Manual, which provides us with the method to be used for establishing whether or not a wetland exists, was not subjected to the notice and comment procedure required by the Administrative Procedure Act. The four agencies issued this as internal regulatory guidance to their staff.

This matter is now the subject of a lawsuit in Maryland called Mulberry Hills vs. United States. U.S. District Ct., District of Maryland, Civil Action No.: PN89-2639. The developer in that case was forced to utilize the Manual. The Manual created a situation in which lands that under the old delineation method would not have been considered wetlands are now considered to be wetlands. The Manual contains mandatory technical criteria, field indicators and recommended methods to determine the existence of wetlands. It effectively changes the criteria and methods for determining jurisdictional wetlands. As such, the plaintiff claims that the Manual is a "rule" within the meaning of the Administrative Procedure Act (5 USC 551(4)). Because the Corps did not go through the rulemaking process, the lawsuit maintains (and I believe rightfully so) that the rule is illegal.

In addition to the fact that the rule is probably illegal, the rule was not enforced in Western New York between March 1989 and July 1990. There was no information given to the general public. Builders and developers were not advised of the changes. State and local agencies continued to issue approvals and authorizations in the same way that they had in years past. Then suddenly, in July of 1990, everything changed. That brings us to where we are today.

Before I go on, I would like to say a word about the rule of law. While it is well established that ignorance of the law is no excuse, in a modern democracy, we expect our government to be fair. One of the logical necessities for implementing new laws and regulations is that the regulated community be notified. Regardless of any other issue in this matter, regardless of the severe economic disruption that this situation is causing, regardless of whether or not ultimately the courts determine that the Manual was promulgated properly, or that notice and comment procedures should have been followed, regardless of all that, this is bad governmental practice. Agencies have to obtain the input of the regulated public to assure that new changes in policy and regulation will not have the kind of severe impact that this change has had on Western New York. People sitting in offices in Washington, whether motivated by good intentions or personal agendas, must seek the input of the regulated public. The Small Business Committee should exercise its oversight function. You should slap the four agencies involved in the issuance of the Federal Delineation Manual very hard on both wrists. Your committee should admonish them that any time they are going to enact a change in a program which will have the de facto effect of increasing the jurisdiction of federal agencies over the ownership, use and development of private lands, these agencies have to make those changes in accordance with the Administrative Procedure Act.

ECONOMIC AND SOCIAL IMPACTS ARE STAGGERING

The federal deficit, the New York State deficit, the banking crisis, over regulation such as what what we have experienced with the Corps of Engineers' implementation of the Federal Wetland Delineation Manual, will result in a 35% reduction in new home starts in Niagara and Erie Counties in 1991.

The results of this loss of home construction will reduce employment in our industry by 30%. This affects a multitude of trades and crafts such as:

- Architect
- Engineer
- Draftsman
- Surveyor
- Excavator
- Cement Mason
- Plumber
- Electrician
- Roofer
- Sheet Metal Mechanic
- Stone Mason
- Brick Mason
- Glazer
- Painter
- Heating, Ventilation & Air-conditioning Mechanic
- Welder
- Carpet Installer
- Flooring Installer
- Locksmith
- Wallcovering Mechanic
- Trim Carpenter
- Asphalt Installer
- Well Driller
- Drywall Hanger and Finisher
- Gutter Installer
- Telephone Technician
- Insulation Technician
- Siding Technician
- Rough and Finish Carpenter

Suppliers for all of the above furniture, appliance sales, real estate sales are likewise affected.

Single family building starts for the two county areas from 1987 are as follows:

Erie County		Niagara County
'87	1951	410
'88	2583	567
'89	2219	642
Nov. '90	2030	599

The average sales price for a new home in 1990 was $156,345.00. This average home was a 2,234 square foot, two-story, four-bedroom house with a two-car garage. Following is an itemized cost breakdown for such an average home.

Land and Lot Development Costs

Raw land	$ 4,800
Impact fees, school and other contributions	3,455
Mass earthwork	1,667
Engineering and soil testing	1,045
Sanitary and storm sewers, water mains	3,420
Streets, curbs and gutters	4,850
Overhead	788
Developer's profit	8,430
Interest	4,725
Miscellaneous	790
Subtotal	$ 33,970

House Construction Costs

Excavation	$ 2,599
Foundation and flatwork	9,035
Steel	483
Carpentry, lumber and trusses	26,213
Windows and doors	2,701
Stairs	719
Roofing and siding	7,224
Gutters and downspouts	451
Plumbing	6,379
Electrical	4,639
Heating, ventilation and air conditioning	3,045
Insulation	1,318
Drywall and painting	8,400
Garage doors	436
Cabinets, counter tops and appliance	3,283
Tile and carpet	4,555
Trim material and hardware	2,749
Landscaping	2,562
Driveway	987
Permit fees	5,200
Construction overhead	3,418
Interest	1,260
Subtotal	$ 97,656

Builder's Soft Costs

Sales commissions	$ 7,817
Closing costs	600
General and administrative costs	1,500
Profits	14,802
Subtotal	$ 24,719
TOTAL PRICE	$156,345

If we take the two county projected total home starts of 2,861 and multiply by average cost $156,345, you can quickly see a multi-million dollar industry - $447,303,045. The 35% projected downturn for 1991 will result in a loss of $156,556,066 to the local economy.

The one thousand homes lost for 1991 would have generated 1,800 worker-years of employment in construction and construction-related industries; $39.3 million in wages; $16.1 million in combined federal, state and local tax revenues; $1.6 million in local property taxes during the first year and $19 million in local property taxes over 20 years assuming a 5% annual increase in property values.

The delays created by the manner in which the Corps of Engineers in Western New York changed its procedures are stifling the delivery of sublot inventory for 1991 and 1992. Old economic planning and approval processing assumptions no longer applied. Additional costs and time factors now have to be factored into planning.

When the Clean Air Act is amended, the automobile and steel industries are given years to come into compliance. Other examples abound. But the construction industry, the largest industry in the United States, was not even given notice of the Federal Delineation Manual.

The costs of this horrible bureaucratic blunder only begin with the cost of the delineation studies. These studies run in the range of $300.00 per acre on a 100-acre site, $400.00 per acre on a 40-acre site, $500.00 per acre on a 10-acre site and more on a smaller site. Beyond that, the costs relate to delay. When the Corps began to impose its will in July, no one had been doing these studies. Scores of projects were put on hold while project developers tried to sort out their responsibilities. At first, no one believed this was happening. It wasn't until late fall that developers realized that delineations had to be done and by that time, the Corps was telling them that due to local climate and weather, the vegetative analysis could not be done between mid-November and mid-March. For the few that were able to get things started before mid-November, the studies are just now being completed and submitted to the Corps. The Corps is discouraging pre-application meetings and is taking several months to process applications and requests for letters of no jurisdiction.

Let's assume that you have a project in which the land has been purchased, engineering and soil testing has been completed, some earth has been moved, but sanitary and storm sewers and water mains, streets and gutters have not yet been installed. The project has been caught in the mess created by the Corps of Engineers and this has added six months to the process. At this point, you have probably invested about 1/3 of the $25,540 land and lot development costs ($8,500). During the six months that you wait, you are losing the carrying costs of that money at 1% per month whether your own money is invested or you have borrowed from the bank. This adds $510 to the cost of your lot. During the same time period, you will pay an additional $100 in property taxes on top of the $160 per lot cost of your delineation. If wetlands are found on the property, you will have to re-engineer at an average price of about $350 per lot. In addition, you will probably lose a significant number of lots due the presence of wetlands. In those subdivisions where our members have completed their delineation studies, they are finding that they will lose, on the average, 25% or more of their lots. Unfortunately, land and lot development costs for the subdivision may actually increase because you will have to avoid wetland areas, but lots assume they stay the same. Extrapolating from our $25,540 total based on a 100-lot subdivision, we find that the per lot cost of development goes up to $38,700, a difference of over $13,000 per lot. In the event that there are not wetlands, we have still added about $770 per lot to the price.

The minimum reasonable profit for a developer given the risks associated with the industry is about 20-25% per year return on investment. A more realistic reasonable profit will be in the 35-40% range. Based upon normal risk factors, most developers in Western New York will not do a project unless they can forecast a 33% per year return. Thus, our lot, which prior to the Corps' actions would have cost about $25,540 and sold for about $34,000, will now cost about $38,700 and sell for $51,500. Again, if no wetlands are present, we have still added $770 to the cost of each lot, which would translate to an increase in sale price of about $1,000.

Based on the figures in our example, the Builder's profit margin was approximately 10.5% based on cost. Maintaining that profit margin with the increase in lot costs of $17,530 yields an increase in cost to the consumer of $19,370. Thus, our $156,000 house will now cost $175,000, an increase of 12% in addition to normal inflationary pressures. Again, even if there are no wetlands, our $156,000 house has gone up to about $157,000. I ask you to consider what this does to the concept of affordable housing. This means that the purchaser will have an additional $25-$30 per month added to his house payment, if he can qualify.

Market conditions will gradually work to spread the higher cost to subdivisions that do not have wetlands. In other words, if we see 1/3 fewer developable lots in the region over time, the cost to consumers for an average house can be expected to increase by nearly $20,000.

Some additional economic concerns include:

* If the project does not have sufficient cash flow to ride out the delays, the project may go under and the banks may be left holding the bag.

* If profit margins cannot be maintained, developers' capital will find its way out of housing and into other businesses. We are already seeing the effect on the economy of banks withdrawing from the housing market. What happens if private money is also not available to developers?

* These increases in costs and the movement of capital out of the housing market translate into less affordable housing, reduced employment, less withholding for state, federal taxes and social security and, of course, the multiplier effect on consumer product purchases, etc.

- Wetlands have very little value for development. Therefore, their assessed value will decrease and the non-wetland areas will be required to pick up the additional taxes. For example:

  In the Town of Clarence, the Assessor has put together figures that show that based on the Corps regulations, the assessed valuation of the lands in the Town will be reduced by $300 million and $9 million in tax revenues will be lost per year.

  The Amherst Town IDA estimates that because of soil types in the town, the Town is likely to lose approximately $175 million annually in assessed valuation. This would amount to tax revenues lost in excess of $6 million.

Housing construction costs have been increasing at a rate of about 5% per year. This will add additional cost to the above calculations.

THE ISSUES ARE COMPLEX

- Small business needs to know the rules. If you give us the opportunity, we can accomplish wonders. But when you create such confusion that every move a businessman makes has to be reviewed by attorneys, accountants and consultants, you destroy incentive. It is that incentive that drives the small businessman who creates most of the new jobs and new wealth in a capitalist system.

- We need to be consulted when new rules are developed. We do not want to see the environment ruined either. But, we can help the agencies to reduce the negative impacts while gaining the benefits.

- We need to be given effective notice when changes in the rules are made as well as time to comply.

- We all have to recognize that protection of the environment must proceed hand-in-hand with beneficial economic development. Environmental protection is, paradoxically, both a necessity and a luxury. If we allow the wanton destruction of natural habitats without regards to their productive values, we destroy our most basic and essential resources. On the other hand, it is possible to overprotect these resources in a manner which is detrimental to the well-being of our society. If the wetlands program impacts agriculture, we have increases in the price of food and some people will not be able to afford to eat. If the wetlands program prevents us from building affordable housing, people will not have shelter. Here, I am not just talking about developers and builders. We have to look at the repercussions throughout society. Decisions about priorities have to be made and I know that these are very difficult political decisions. When we say that we cannot afford to destroy more wetlands, the other side of that questions is can we afford not to destroy certain wetlands?

* The definition of wetlands and the delineation process should factor in the values that wetlands are meant to serve. These values are substantial. According to 33 CFR Part 320.4, some of the values wetlands serve include maintaining biological functions, food chain production, wildlife habitat, drainage, sedimentation, salinity in flushing functions, reduction of wave action, errosion and storm damage, natural pollution control and water purification functions and many others. We recognize and approve of the preservation of wetlands for these purposes. The problem is that we have a definition and delineation procedure which includes too much. Those wetland areas that truly serve the functions and values for which we hold wetlands to be important should be protected. Those areas that do not, but because of a mechanical definition can arguably be regulated should not fall within the Corps program. This poses the classic dilemna. On the one hand, you can draw a very broad definition which includes alot of property that ultimately will not be regulated. This forces a lot of people to go through the time and expense of a process in which ultimately they will get their permits. On the other hand, you can draw the definition much more narrowly, perhaps lose a few marginal wetlands and keep the bulk of these people outside of the process. For the purposes of small business, the latter is the preferable means. By having clear guidance as to what will or will not be included, even at the risk of the loss of some marginal wetlands, we give businessmen the freedom and flexibility to make decisions without the need for complex scientific studies and tremendous time lapses.

* Federal, state and local agencies have to coordinate better. Had the Corps, DEC and DEP thought through the introduction of these changes to the public, they might have found ways to reduce the impact. If you have wetlands on a portion of your property, you ought to be able to increase density on the rest. This requires federal, state and local governments to work together to find creative solutions.

- Other competing values, most importantly private property rights, jobs and affordable housing must be reconciled with environmental goals.

THERE ARE SOLUTIONS THAT CAN WORK

GENERAL SOLUTIONS

- Improve notice procedures to small business in the event of regulatory change. Use notice and comment for all regulatory changes. Require a regulatory impact analysis that evaluates costs of the regulation to small business and costs of the program to government.

- Even when proper procedure is followed, the Federal Register is not enough. Most businessmen do not read it. (If they spent the time to read it, they would soon be out of business). Local offices of affected agencies should make better efforts of new regulations to get the word out before the effective date.

- Improve inter-governmental cooperation and coordination.

- Prioritize environmental goals and give business incentives to achieve them.

SPECIFIC SOLUTIONS

SHORT TERM -

- Enact legislation to require or obtain the agreement of the Corps to suspend use of the Manual until proper APA procedures can be complied with.

- Grandfather all projects for which significant costs have been incurred or significant progress had been made towards development as of the time the new procedures were imposed.

  This timing may vary around the country. For this area, September 1990 would be appropriate as long as the definition of "significant progress" is not overly restrictive.

- Staffing and funding must be increased in the short term to allow the horrendous backlog of jurisdictional determinations and permit applications to be processed before the applicants get into serious financial trouble.

- Lands in existing sewer districts should be exempted.

LONG TERM -

* Clarify the definition of "waters in the United States" to avoid the need for more litigation.

* Narrow the definition of jurisdictional wetlands.

* Consider dropping soils with potential hydric inclusions from the delineation requirement. This would simplify the process and would result in the loss of few wetlands of high value.

* Consider dropping facultative plants from the analysis or at least modify the percentages to reduce the amount of jurisdictional wetlands.

* One agency should run the program. We believe that the Corps of Engineers would be the appropriate agency because they have the engineering and environmental expertise to evaluate projects intelligently. The EPA's oversight and veto, required in the days before the Corps had its own environmental expertise, is no longer warranted.

* A minimum size should be established for jurisdictional wetlands, with few exceptions.

* Wetlands should be mapped by the government and only mapped wetlands should be regulated.

* Mapped wetlands should be classified according to their values. While many wetlands should be left undisturbed, principles of multiple use should be applied to less valuable wetlands. Owners of wetlands whose value makes development undesirable should be compensated for their loss, without the need for costly and lengthy takings of litigation. The system should account for regional differences. The balance between economy and ecology should be struck differently in areas of the country having abundant hydric soils, such as Niagara and Erie Counties, than it is in areas with very few hydric soils.

* No Net Loss should be carefully evaluated and thought through. If it is going to work, we will have to reduce the requirements of alternatives analysis and allow for mitigation and wetlands banking. We need a much better understanding of these concepts and how they will be implemented. No Net Loss should apply only to valuable wetlands, not to marginal areas that do not exhibit significant wetlands values.

* Methods must be found to reduce the complexities and time frame for jurisdictional determinations and permit issuance. Application procedures should be simplified. A simple notice procedure for under one-acre permits should suffice. Staffing and funding should be increased.

I suggest that you take a look at a bill which is being introduced in the House of Representatives by Jim Hayes from Louisiana. This bill was introduced last year and incorporates many of the items that I have just mentioned. The National Association of Builders has decided to support that bill. While there are some changes that need to be made, I think it is pretty sound both from an environmental and a small business standpoint.

CONCLUSION

This issue appears to force a choice between a clean environment and a strong economy. I do not think that is necessary. It seems to me that with reasonableness and caution, we can protect the valuable wetlands resources of this nation while we give small business a set of workable, effective rules by which to work. The ability of the American businessman to adapt to market conditions is phenomenal. Time and time again, we have seen this genius of American business. It is innovative, it is capable, it is intelligent and it is concerned about the same things as all Americans - peace, prosperity and environmental protection. We all want the best of both worlds. We disagree on the seriousness of the environmental problem and we disagree on how to get from where we are now to a cleaner environment. The legislative process is uniquely adapted to deal with this dilemna. Throughout our history, Congress, has been able to find ways to compromise conflicting ideals. That is one of the most wonderful and awesome truths about our system of government.

It is incumbent upon you when you return to Washington to take up this issue quickly and expeditiously, to provide interim relief and then to get down to the task of determining the right course for our nation with respect to this matter. Thank you very much for your kind attention.

TESTIMONY OF DANIEL SYMONIAK, REPRESENTING THE GREATER BUFFALO ASSOCIATION OF REALTORS

(1)

The purpose of my testimony today is to convince the members of this hearing panel that the current federal wetlands program and its implementation through the new field manual is creating an undue hardship upon small businesses in Western New York.

Let me begin by supplying some background information on conditions in Western New York today. Because of the shortness of preparation time I was only able to gather data from one community in Western New York, the Town of Amherst. The information that I will be giving you was prepared by the Amherst Industrial Development Agency.

In an attempt to determine how much of land in the Town of Amherst would need to go through the application and delineation process, I took the total acreage, 34,100; subtracted the developed acreage, 20,541; leaving 13,559 vacant or agricultural acres, in other words about 40% of Amherst's land is still undeveloped. I further attempted to determine what portion of this remaining land would require Army Corp of Engineer approval before development could begin. What I found out was that all of it would. Today, neither the Town Planning Board in Amherst nor the Amherst Industrial Development Agency will place a proposed project on their respective agendas without clearance from the Army Corp of Engineers.

I will not go into all the requirements of the application and approval process except to note that Upstate New York is at a particular disadvantage because the required field vegetation studies cannot be done between November 15th and March 15th because of winter dormancy. This factor alone can create a four month delay in the process and a large backlog on March 15th or later when the vegetation begins to refoliate.

According to a recent study by the Amherst Industrial Development Agency there are sixty-six small businesses currently located in the Town of Amherstthat anticipate expansion within the next two years. I am deeply concerned that the expansion plans of some of these 66 companies will be delayed, made more expensive, or be completely eliminated by the requirements of the wetlands program. The worst case scenario in some of these situations is that companies that cannot expand will move to other parts of the state and/or county where they can.

Last Tuesday the Buffalo News carried the results of a recent statewide survey of 3,379 companies which revealed the following frightening results: -- 70% of the business leaders said that any future expansion plans for their firms would not include New York if they had a choice; -- 57% said they would like to move their companies out of the State. If you add to this already negative perception of New York as a place to do business a new lengthy and costly process for the companies that would like to stay and expand, I am certain that the negative attitudes about New York will only continue to grow.

In closing I would like to add that although the federal government wetland program is meant for the whole country, its affects are not felt equally by all. Erie and Niagara counties have a unique geology, hydrology and micro-climate which means that the possibility of finding "wetlands" here are much greater than most other areas of the country.

As far as I know, no one has ever determined how much wetland is needed to achieve a desired goal. Reaching the goal of "no net loss of wetland" espoused by the Bush administration and the New York State Department of Environment and Conservation will be a hollow victory if it is accomplished by designating broad areas such as Erie and Niagara counties as wetland while leaving other counties and states untouched.

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PREPARED STATEMENT OF MICHAEL JAMES

Testimony to be presented January 22, 1991 to U.S. Congressman John LaFalace's committee on Small Business.

In my capacity as President of the Lockport Board of Realtors and a Director of the New York State Association of Realtors, I have closely followed the proposed changes in the New York State Department of Environmental Conservation's Freshwater Wetland Regulations. If I bring any prejudice to this hearing, it lies with my sincere belief that private property ownership is essential in a democratic society and it must be defended and promoted if we are to continue as a strong nation.

The following is a letter which I drafted and submitted to Department of Environmental Conservation Commissioner Thomas C. Jorling. I will read it at this time because it sums up the position of the New York state Association of Realtors, a trade organization with over 40,000 members as well as the Lockport Board of Realtors with membership in excess of 300 people.

Michael James

ML

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December 14, 1990

Commissioner Thomas C. Jorling
N.Y.S. Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233

Dear Commissioner:

This letter is being written on behalf of the Lockport Board of Realtors regarding the proposed changes in the Department of Environmental Conservation's Freshwater wetlands regulations. In concert with the views recently expressed by our New York State Association of Realtors, we believe that a better balance between environmental concerns on one hand and private property rights on the other must be struck.

Of great concern is the potentially detrimental effect that the proposed changes will have on land owners in New York State. From their viewpoint, the system currently in place is seemingly unable to provide timely and definitive answers. Thus, we often see environmentally sound development plans becoming enconomically unsound during the current 3 to 5 year application process in which a final conclusion may never be reached. Further expansion of the present system without effectively correcting existing problems especially in light of the current state budget cutbacks seems unwise. Our housing industry is already suffering in the throes of a nationwide recession.

The concept of a "No-Net Loss" policy is vague enough to allow for great misconception. Seemingly a shift in practice of this magnitude without the New York State Legislature's involvement goes beyond the authority of the department.

The proposed reduction in your jurisdictional threshold in cases of "unusual local importance" for parcels under the current 12.4 acre limit, opens the door for potential delays and financial burdens to property owners far and beyond anything experienced to date.

Consequently, we are calling for a comprehensive review to be undertaken by the State legislature to encompass not only the proposed changes in the regulations, but also to address the short comings of the present system. To be considered of primary importance are the potential adverse impact on the rights of private property owners, land values and municipal property tax bases.

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The Lockport Board of Realtors strongly urges the Department of Environmental Conservation to work with the Legislature in improving the process in order to lessen these threatened adverse effects. We further encourage open discussion to develop a no-net loss policy that preserves the rights of property owners in New York State as well as preserving our vital wetland areas. Let's not add private property owners to the list of Endangered Species.

Yours truly,

Michael K. James

Michael K. James
President
Lockport Board of Realtors

cc: Mr. Dan Symoniak
June Woyniak
John B. Daly
Matthew Murphy

MKJ/kms

Niagara Falls AREA BOARD OF REALTORS

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January 12, 1991

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The Hon. John J. LaFalce
615 Main Street
Niagara Falls, N. Y. 14301

Dear John:

In preparation for the closed Legislative Session to be held at NCCC on January 22, 1991 I would like to put some thoughts together regarding the current Wetlands regulations and its effect on the Real Estate Industry in the Niagara County area. Your aide, Susan Lubik, said you want statistics.

Our area, the towns of Lewiston, Porter and Wilson contains many farms. Each year more and more farmers are retiring and many of them do not have children who wish to carry on the family farm. Any land that is declared "Wetlands" may continue to be farmed but cannot be sold for development. A case on which I am now working is a 17-acre parcel on Balmer Road. The N. Y. State Department of Environmental Conservation has affirmed that this land is NOT included in the Wetlands area, however, their affirmation included a statement that the United State Corps of Engineers should be contacted to determine "whether any Federally regulated wetland occurs on the property..." A response from the U. S Corps of Engineers contained a packet of applications to be filled out. As the purchaser of the Balmer Road parcel is applying for a grant from the state of New York for Affordable Housing he is required to obtain a letter from NYSDENCON stating that the property was not in the Wetlands. The Town of Porter map showing Wetlands in the town shows that the subject property is not in the Wetlands area.

The above information is one of many cases that affect landowners whose property cannot be sold or who are subjected to endless paperwork and frustration while they try to develop their property. The need for Affordable Housing is great in Niagara County. Property such as the example cited above is high and dry, passed Health Department percolation tests, drainage survey etc. all expenses borne by the prospective purchaser and should not be subjected to further delays by a Government agency.

We urge you to assist your constituents in your district by persuasion, legislation or whatever it takes to cut through the bureaucratic red tape that is plagueing landowners, prospective sellers and the Real Estate Industry in New York State.

Respectfully,

Margery L. Stratton

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According to the Niagara County Soil and Water Conservation District the proposed changes in defining a wetland to include hydric soils or soils with potential hydric inclusions could potentially classify up to 66% of all Niagara County land and up to 53% of all Erie County land as wetlands. Currently less than 5% of the land is so classified. The Niagara County Legislature and 10 other local municipalities have already passed resolutions opposing these changes.

Why have so many citizens expressed outrage at the impending changes? Simply because these individuals are by far, hardworking, tax paying residents of Niagara County who see in many cases, lifetime of hard work potentially threatened by devaluation of their property. Land so designated would be rendered virtually worthless in terms of resale value and the properties not so designated would logically escalate in price. This would only serve to make housing less affordable with supply and demand reality coming into play.

If the aforementioned tragedy should take place, the ramifications will be much more far reaching than this. Small businesses, firms that supply builders, developers and homeowners with materials and supplies will be among the losers. When a home is marketed for sale and subsequently sold, improvements almost always take place. The roof is replaced or the heating system upgraded, new siding covers a shabby exterior, rooms are painted, carpets are torn up and replaced. All of this flurry of activity adds up to one thing; Money being pumped back into the local economy. On top of that, employment is safeguarded, sales tax and property tax revenues are enhanced. With a slowdown of the transfer of property, the economy stagnates.

The ultimate irony is the existence of two agencies; one being the DEC and the other being the United States Army Corps of Engineers, both of which are involved in essentially the same regulatory capacities. However, it seems that often the findings of both agencies are in conflict and property owners are left with the dilemma of having to hire private consulatants at high fees to prove a case they likely will eventually lose anyway. If one thinks that delays are solely the province of the DEC due to it's under staffed position, Diane Radon, Senior Biologist of the Army Corps admitted the same is true of her agency in a presentation to the Buffalo Chapter of the New York State Commercial Investment Division on January 22, 1991.

It is our opinion that more could be gained if legislative hearings were conducted with both the DEC and the Army Corps in attendance. Only through open communication and compromise can property owners rights be assured. Condemnation without compensation will not tolerated by the people of this state.

Respectfully,

Michael James

Michael James
President
Lockport Board of Realtors

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TERRY W. KUEHN
SUPERVISOR

ON BEHALF OF LOCAL GOVERNMENT, I THANK CHAIRMAN LAFALCE AND THE HONORABLE COMMITTEE MEMBERS FOR THE OPPORTUNITY TO ADDRESS THE ISSUE OF THE EFFECTS OF CURRENT FEDERAL WETLANDS LEGISLATION ON LOCAL GOVERNMENT. IF THE ARMY CORP OF ENGINEERS CONTINUE TO ADHERE TO THE "NO NET LOSS" THEORY UNDER CURRENT REGULATIONS, AREAS LIKE NIAGARA COUNTY WILL BE DEPRIVED OF APPROXIMATELY 65% OF THE REMAINING DEVELOPMENTAL PROPERTY BY VIRTUE OF ITS EXCESS OF HYDRIC SOILS. A RECENT INQUIRY FOR POSSIBLE SUBDIVISION REVIEW APPROVAL TOOK PLACE WITH THE BUFFALO OFFICE OF THE ARMY CORP. IT WAS MET BY A BACKLOG OF 200 SUBDIVISIONS AND A ONE YEAR REVIEW PERIOD, PRIMARILY BECAUSE OF STAFF CONTRAINTS. DELAYS OF THIS DURATION, EVEN WITH EVENTUAL APPROVAL, WOULD DESTROY MANY DEVELOPERS. IF NEW POLICY OR LEGISLATION IS INITIATED, IT IS THE RESPONSIBILITY OF THE LAWMAKERS TO MAKE IT EQUITABLE. THE PRESENT PROPOSAL IS NOT EQUITABLE.

OTHER ADVERSE EFFECTS OF ADDITIONAL REGULATIONS ARE:

1. THERE WOULD BE A LOSS OF REVENUE DUE TO THE LOSS OF PERPERTY TAXES.
2. OUR AREA HAS A LOT OF POTENTIAL BECAUSE OF WETLAND CHARACTERISTICS, SUCH AS POWER RESOURCES - WETLAND REGULATIONS DETER GROWTH. A WORKABLE DEFINITION OF WETLAND SHOULD MAKE REFERENCE TO THE VALUES IT SEEKS TO PROTECT AND NOT SIMPLY TO THE PHYSICAL FEATURES OF SOILS OR VEGATATION.
3. THE BUREAUCRATIC PROCESS NEEDS TO BE STREAMLINED. THESE REGULATIONS ONLY GIVE MORE RESPONSIBILITY TO AND BROADEN THE REGULATORY AUTHORITY OF ALREADY OVERBURDENED, UNDERSTAFFED STATE AND FEDERAL AGENCIES.

4. ON THE FEDERAL LEVEL, ANY COSTS RELATED TO ANALYSIS IS THE RESPONSIBILTY OF THE DEVELOPER. THIS CONDITION PLACES UNDUE PRESSURE ON THE BUILDER.

5. THE STATE AND ARMY CORP OF ENGINEERS, IN MANY CASES, DUPLICATE THEIR REVIEW REQUIREMENTS AND PROCEDURES. THIS CREATES EXTRA WORK FOR THE DEVELOPER AND THE COSTS IN DELINEATION, DELAYS AND RESULTING EXPENSES CAN SUBSTANTIALLY AFFECT THE COST OF DEVELOPMENT.

6. THE POTENTIAL OF COSTLY REVIEWS AND LENGTHY REVIEW PROCESSES WILL DETER MANY OUTSIDE INVESTORS.

7. WE ALREADY HAVE ABUNDANT WETLAND RESOURCES FOR OUR AREA - THE ADDITIONAL, STRICT ENFORCEMENT OF REGULATIONS HERE WILL NOT HELP OTHER AREAS WITH CRUCIAL WATER SHORTAGES AND WETLAND DEFICIENCIES.

THE POINT IS THAT THE COUNTY OF NIAGARA HAS EXPERIENCES POOR ECONOMIC CONDITIONS, AND NOW, WHEN THE OPPORTUNITY FOR QUALITY GROWTH IS HERE THE LAST THING WE NEED ARE ADDITIONAL RULE CHANGES THAT MAKE MANY PROPOSED COSTS PROHIBITIVE AND IMPOSSIBLE. MANY FARMERS IN MY TOWN OF WHEATFIELD ARE FIGHTING TO MAINTAIN FARMS THAT HAVE BEEN IN THEIR FAMILIES FOR OVER 100 YEARS. THEY REALIZE NOW THAT THEY MUST SELL ALL OR PORTIONS OF THEIR FARMS TO SUPPORT THEIR OWN FAMILIES. IF THEIR FARMS CONTAIN WETLANDS, THEY CANNOT PROFIT FROM THE SALE. IF STATE AND FEDERAL GOVERNMENTS WANT CONTROL OF THIS LAND, LET THEM PURCHASE IT AT FAIR VALUE THEREBY MAINTAINING LOCAL TAX BASES. THE PRESIDENT IS LEAVING THE FARMERS WITH NEXT TO NOTHING, AND IF THE STATES, IN TYPICAL FASHION, ATTEMPT TO PREEMPT FEDERAL LEGISLATION, LOCAL GOVERNMENT WILL NO LONGER EXIST IN IT'S PRESENT FORMAT. AS STATED PREVIOUSLY, EQUALLY EFFECTED ARE COMMERCIAL AND INDUSTRIAL DEVELOPERS WHO OPERATE WITHIN WINDOWS OF OPPORTUNITY THAT ARE SENSITIVE TO MARKET PLACE AND FINANCING CONDITIONS. IN WHEATFIELD, THE PROPOSED 300 MILLION DOLLAR SUMMIT PARK EXPANSION AND THREE NEW INDUSTRIAL PARKS WOULD BE ADVERSELY AFFECTED BY THIS NEW PLAN.

CLEARLY, DESIGNATION OF 65% TO 70 % OF REMAINING LAND IN NIAGARA COUNTY AS WETLANDS IS FAR FROM FAIR. I WOULD SUGGEST MORE STATE AND FEDERAL GOVERNMENT COOPERATION IN WESTERN NEW YORK, ONE OF THE FEW BRIGHT SPOTS IN NEW YORK STATE'S SAGGING ECONOMY. LET US RETAIN OUR CURRENT COMPETITIVE POSITION. TO CHANGE THIS CONDITION NOW WOULD BE ECONOMIC SUICIDE. RE-CONSIDERATION OF THE ENTIRE WETLAND'S REGULATIONS IS OUR ONLY RECOURSE.

I THANK YOU AGAIN FOR INVITING ME TO SPEAK AND PRESENT MY VIEWS ON THIS CRITICAL ISSUE.

GREAT LAKES UNITED

January 21, 1991

Niagara Falls, NY

PRESENTATION
of
Philip E. Weller
Executive Director, Great Lakes United

To Hearing of the House Small Business Committee
Chairman Congressman John L. LaFalce

My name is Philip E. Weller, and I am Executive Director of Great Lakes United. Great Lakes United is a binational coalition of over 180 organizations, including sportsmens and environmental groups, unions, governmental and research organizations, dedicated to the conservation and protection of the Great Lakes environment.

On behalf of Great Lakes United, I would like to thank Congressman LaFalce for the opportunity to present our organizations' views on the impact of existing and proposed laws and regulations intended to protect wetlands.

As you know Congressman LaFalce, Great Lakes United was formed in 1982 in response to citizen's concerns about pollution and other degradation of the Great Lakes region. While much of our effort as an organization is dircted toward addressing the critical pollution problems in the Great Lakes, we are greatly concerned about damage to important natural features of the ecosystem, including wetlands.

Wetland quantity and quality have dramatically declined in the Great Lakes region since the arrival of European settlers in the late 1700's. The decline of wetlands has been so severe that at present there is only about 30 percent (30%) of the original wetlands remaining in the Great Lakes region.

Wetlands areas are critical to the ecological health of the Great Lakes region. Wetlands provide vital habitat for fish and wildlife, they protect water quality of lakes and streams, and they provide important economic benefits, including minimizing damage from flooding and erosion and providing areas for a number of popular recreational activities. The Great Lakes region cannot afford to lose the important economic gains that result from these wetland functions.

An international organization dedicated to conserving and protecting the Great Lakes and St. Lawrence River"

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Throughout the past two years Great Lakes United has worked with representatives of over twenty (20) key organizations in the Great Lakes region to develop a Great Lakes Wetlands Policy Agenda. On January 14, 1991 we publicly released the recommendations from our work and we would like to submit a copy of this report for the record.

The principle finding of the report is that "because of the essential link between wetlands and the vitality of the Great Lakes ecosystem, immediate action is necessary to increase the quality and quantity of the Basin's wetlands". Great Lakes United strongly supports this view.

First and foremost it is our strong belief that the Federal government and the Great Lakes states and provinces should jointly adopt Basin-wide principles for wetland conservation and restoration. Only through a clear statement of principles can the remaining wetland resources of the region be protected. We support the goals expressed by both the federal and state governments for No Net Loss of Wetlands.

To ensure greater protection of these valuable resources governments at a federal, state and local level should be expanding the opportunities and incentives for preservation. Governments at all levels can and should be encouraging private stewardship of wetlands by creating economic and other kinds of incentives for private conservation of wetlands. Such incentives should include property tax relief to landowners who protect wetlands, direct purchase of development and recreational rights for wetlands. One such current program, the Water Bank, pays farmers who agree not to farm existing wetlands, with payments negotiated every ten years. Unfortunately this program has been funded at a level well below the $30 million authorized annually.

In addition, the Federal government could correct problems with existing law to increase tax incentives for conservation gifts to nonprofit organizations or government entities. Prior to 1986 all donors of appreciated property (land, easements, securities) could claim an income tax deduction for the full market value at the time of the gift. In 1986 this was changed, reducing the federal tax incentives for wetlands protection. For instance, gifts of appreciated property are only deductible against 30% of ones adjusted gross income, while gifts of cash and ordinary income property are deductible against 50% of adjusted gross income. This provision should be changed to increase the deduction for land and easements.

We as an organization support an increase in incentives to protect wetlands. It is essential, however, that in addition to incentive programs, strong federal, state, and local wetland regulations are in place to prevent destruction of our valuable wetland resources.

The following quotation from the Wetlands Policy Consortium report summarizes our views on this topic.

> Effective regulatory programs are necessary at all levels of government to bring about an increase in the quantity and quality of wetlands in the Great Lakes Basin. In order to accomplish the goal of increasing the wetland base in the great Lakes region, governments must adopt programs that prohibit destruction of existing wetland ecosystems by regulating activities that alter wetlands and buffer areas surrounding them. The direct and continuing loss of wetlands through filling, draining, excavating, and other activities which degrade or destroy wetlands must stop. The quality and quantity of the Basin's wetlands cannot be increased unless regulatory programs control the loss and degradation of existing wetlands.

In recent months there has been considerable confusion about the Federal and State mapping and delineation of wetlands. While we recognize the need for greater clarification and public understanding of the changes that have been made and proposed, we strongly support these changes because they more clearly delineate wetland areas and are designed to better protect this wetland resource. We are concerned, however, about conflicting wetland definitions and would support the adoption of a common definition of wetlands for regulatory purposes. We recommend the adoption of the definition agreed upon by U.S. Federal regulatory agencies.

We would like to state our strong support for federal laws such as the Coastal Barrier Resource System and Swampbuster that attempt to limit government funding of activities destructive to wetlands and coastal resources. We are very pleased these two programs were extended in the previous Congress.

In conclusion, we would like to state our firm belief in the need for strong wetland protection programs. Wetlands are not "wastelands", they are areas critical to our economic and ecological well being.

Protecting wetlands is not a short term expense - it is a long term investment.

PRESERVING GREAT LAKES WETLANDS:
AN ENVIRONMENTAL AGENDA

THE FINAL REPORT OF

THE GREAT LAKES WETLANDS POLICY CONSORTIUM

An International Consortium of Environmental
and Conservation Organizations

Stephen Brown
Project Coordinator

1990

Acknowledgements

This project was made possible by the support of the Charles Stewart Mott Foundation, and its ongoing commitment to protecting the environment. The success of the project depended on the willingness of the participating organizations to donate significant amounts of staff time and other resources, and the commitment and dedication of the organizational representatives.

Gail Gruenwald, Executive Director of the Tip of the Mitt Watershed Council, oversaw all aspects of the project, from administration and budgeting to wetland policy analysis. Her knowledge and experience were invaluable to the project. Wil Cwikiel, Environmental Policy Specialist at the Watershed Council, provided valuable input into the final editing of this report. Michelle Patterson, Office Manager at the Watershed Council, provided extensive support both during and between Consortium meetings. Her patience, good humor, and hard work were much appreciated.

The purpose of this document is to promote the protection and enhancement of wetlands in the Great Lakes Basin. As such, any part of this document may be copied and distributed in efforts to promote this purpose.

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Inside illustrations by Thomas W. Ford

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PREFACE

This report was prepared by representatives of the following organizations, all of which share a strong interest and commitment to preserving the many values of Great Lakes wetlands, and are engaged in programs to implement the recommendations herein:

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Mr. Bill Horvath, of the National Association of Conservation Districts; Jan Goldman Carter, of the National Wildlife Federation; Kathyrn Hohmann, of the Sierra Club; Leah Haygood, of the Conservation Foundation; Leonard Corin, of the United States Fish and Wildlife Service, and many other staff people with the participating organizations, served as technical experts during the process of drafting the report.

The Great Lakes Wetlands Policy Consortium includes the major environmental and conservation organizations active in wetlands issues in the Great Lakes Basin. It is an international group, with representative organizations from both the United States and Canada. The group met during a two year period to develop wetland policy recommendations for the Great Lakes region. Wetland policy within the Basin is complex, and rapidly changing. For this reason, the official positions of some of the participating organizations may differ slightly from some of the recommendations in the report.

This document begins with an executive summary, which lists all of the recommendations in the full report, with brief explanations. The first section of the full report is the vision statement of the Consortium, which states our overall goal of increasing the quality and quantity of wetland resources in the Great Lakes Basin. The second section is the introduction to the report, which provides details regarding the extent of wetlands loss in the Basin, and the need for a coordinated strategy to increase our wetland resources. The third section contains the substantive recommendations of the Consortium, along with detailed analysis and explanation. The final section of the report details the major actions planned by the participating organizations toward implementation of the recommendations. The appendices include a model wetland protection ordinance, examples of educational outreach products, and a report on existing state and provincial regulatory programs in the Great Lakes Basin.

EXECUTIVE SUMMARY

The wetlands of the Great Lakes Basin are a vital regional resource. They provide a wide range of important values to the residents of the Basin, and are essential to the functioning of the Great Lakes ecosystem. Wetlands provide vital habitat for fish and wildlife in the region. They protect the water quality of lakes and streams by filtering nutrients and pollutants, which makes them critical in our fight for improved water quality and recreational opportunities. Wetlands also play an important role in minimizing damage from flooding and erosion. The region simply cannot afford to lose the economic gains that result from these wetland functions.

Wetland quantity and quality have dramatically declined since the arrival of the European settlers in the Great Lakes region in the late 1700's. It is difficult to judge the extent of wetland loss since settlement because there is no definitive baseline data to compare with more current figures. But the losses recorded in states and provinces where data exists have been substantial. In areas of southern Ontario, for example, the conversion of wetlands to other uses has exceeded 80% of the original acreage. In Michigan, wetlands have been reduced by up to 70%. For the Great Lakes region as a whole, only about 30% of the original wetlands remain intact.

Wetland protection is vital to maintaining a healthy ecosystem and will require a coordinated effort on the part of all levels of government as well as the private and non-profit sectors. The absence of coordination in the past has resulted in irretrievable losses to the ecosystem. Our remaining wetlands are critical to the protection of the Great Lakes ecosystem. Protecting our wetlands resources will require coordinated planning efforts; increased incentives for preservation; improved regulatory programs and better enforcement; expanded restoration efforts; applied research and management to reduce detrimental impacts; increased acquisition of wetlands; and improved educational outreach.

The recommendations that follow are directed toward achieving better stewardship of wetlands in the Great Lakes region. If these recommendations are implemented, the region will reap significant benefits in the long term. The Consortium urges public agencies to have the vision and courage to take these needed steps, and urges non-governmental organizations to work diligently toward the protection of wetlands. Protecting wetlands is not a short term expense–it is a long term investment.

The Great Lakes Wetlands Policy Consortium developed detailed recommendations in eight major areas where wetland policy must be strengthened. Only our recommendations in each area are presented in this executive summary. Support, rationale, and an Action Agenda to guide implementation efforts for these recommendations comprise the remainder of this report.

AREAS OF OPPORTUNITY: RECOMMENDATIONS OF THE CONSORTIUM

A. IMPROVING REGIONAL COORDINATION AND PLANNING

Federal policy, state and provincial planning and management, and county, township, and municipal land use decisions together contribute to the maintenance or destruction of wetlands. Often these government actions are taken without adequately assessing the full range of wetland values. Unfortunately many decisions are made with an eye only to short-term values, and often these values are exclusively economic ones. Non-governmental organizations play a key role in monitoring and reinforcing the actions of government and the private sector. Wetlands are not unused lands awaiting a higher and better use; rather, wetlands are essential components of the Great Lakes ecosystem. Non-government organizations must communicate this fact to the members of the public, stir them to action, and keep them motivated.

A.1) INTERNATIONAL RECOMMENDATIONS ....

Recommendation 1

The agencies and organizations responsible for implementing the Great Lakes Water Quality Agreement (GLWQA), the Great Lakes Fisheries Convention, the Migratory Birds Convention, the North American Waterfowl Management Plan, and for controlling Great Lakes Water Levels must integrate their respective activities and plans which affect the protection and management of wetlands.

Recommendation 2

The Great Lakes Water Quality Agreement (GLWQA) should be utilized to protect wetlands. The United States and Canadian federal governments should initiate activities necessary to fulfill their obligation for wetland protection pursuant to Annex 7 and Annex 13 of the existing Agreement. When the GLWQA is next reviewed by both governments, a new Annex dealing specifically with wetlands should be added.

A.2) RECOMMENDATIONS FOR PROVINCES, STATES, AND LOCAL GOVERNMENTS ....

Recommendation 3

The Great Lakes provinces and states should adopt Basin-wide principles for wetland conservation and restoration, as they have done for water supply (the Great Lakes Charter) and toxic substances (the Toxic Substances Control Agreement).

Recommendation 4

Each province and state should prepare comprehensive wetlands plans and enact the legislation and regulation needed to implement the Basin-wide wetlands principles recommended above.

Recommendation 5

The states and provinces should include wetland specialists in Remedial Action Plan (RAP) development teams and encourage wetland protection and restoration in the goals, recommendations, and remedial measures for each area of concern identified by the International Joint Commission.

Recommendation 6

Each local government should review wetland inventories in its jurisdiction and prepare plans and zoning ordinances to protect its wetlands from conversion and from the adverse effects of adjoining land use. Local wetland conservation plans should be consistent with the wetlands plan of the province or state.

A.3) RECOMMENDATIONS FOR NON-GOVERNMENTAL ORGANIZATIONS ....

Recommendation 7

A network of concerned organizations should be established to coordinate Basin-wide initiatives and to build and carry momentum for wetland protection.

Recommendation 8

Non-governmental organizations should launch a Basin-wide wetlands stewardship program, and assume a leadership role in orchestrating a proactive, coordinated approach to increasing the quality and quantity of Great Lakes wetlands.

B. INCREASING INCENTIVES FOR PRESERVATION

The goal of increasing the wetland resources of the Great Lakes cannot be met by government alone. Everyone in the Great Lakes Region must do whatever is possible to preserve and increase the Region's wetland resource base. Government can, however, encourage private stewardship by creating economic and other kinds of incentives for private conservation of wetlands.

B.1) DIRECT AND INDIRECT PAYMENTS ....

Recommendation 9

Existing programs offering direct payments to landowners who protect and enhance wetlands should be expanded

Recommendation 10

All levels of government should require permanent easements on wetlands in exchange for direct payment under incentive programs.

Recommendation 11

State, provincial, and local governments should develop or expand programs to purchase development rights and recreational rights for wetlands and adjacent buffer areas.

Recommendation 12

Where appropriate, due to higher land values, governmental entities should develop separate acquisition programs for urban wetlands.

B.2) INCOME AND PROPERTY TAX INCENTIVES ....

Recommendation 13

All levels of government should provide property tax relief to landowners who protect wetlands.

Recommendation 14

States and provinces should develop Managed Wetlands Acts, similar to existing forest management acts, that pay part of the local property taxes on wetlands that are preserved and managed by private landowners.

Recommendation 15
All levels of government should provide tax credits for restoration of wetlands.

Recommendation 16
The U.S. federal government should correct problems with existing tax law to increase the income tax incentives for conservation gifts to nonprofit organizations or governmental entities.

Recommendation 17
State tax codes should allow qualified donations of wetland and adjacent buffer lands to governmental or nonprofit entities to be treated as deductions from ordinary income with limits and carry forward provisions allowing the taxpayer(s) to deduct the full value of the wetland and buffer area over time.

Recommendation 18
State natural resource agencies, taxing entities, and departments of agriculture should cooperate to develop their own state "debt for nature" easement program similar to the Farmer's Home Administration program.

B.3) OTHER INCENTIVES

Recommendation 19
Technical Assistance and cost sharing should be provided to landowners who restore or enhance wetlands.

Recommendation 20
State, provincial, and local governments should modify property owner liability for landowners who preserve wetlands and make them available for public uses.

Recommendation 21
Award programs recognizing wetland stewardship should be expanded.

Recommendation 22
State, provincial, and local governments should review and amend their subdivision control and planning and zoning laws to incorporate or strengthen wetland protection incentives.

C. STRENGTHENING REGULATORY PROGRAMS

Effective regulatory programs are necessary at all levels of government to bring about an increase in the quantity and quality of wetlands in the Great Lakes Basin. In order to accomplish the goal of increasing the wetland base in the Great Lakes Region, governments must adopt programs that prohibit destruction of existing wetland ecosystems by regulating activities that alter wetlands and buffer areas surrounding them. The direct and continuing loss of wetlands through filling, draining, excavating, and other activities which degrade or destroy wetlands must stop. The quality and quantity of the Basin's wetlands cannot be increased unless regulatory programs control the loss and degradation of existing wetlands.

The Consortium recommends that regulatory programs should exist at local, state, and federal levels of government in the U.S., and at the local and provincial level in Canada, that meet the general criteria outlined in recommendations 23 through 30. In addition, recommendations 31-40 address specific weaknesses in existing programs and proposed corrections.

C.1) GUIDELINES FOR ALL REGULATORY PROGRAMS

Recommendation 23
Wetland regulations should cover all activities, such as channelization, drainage, vegetation removal, excavation, and the discharge of pollutants that may degrade or destroy wetland functions and values.

Recommendation 24
Wetland regulations should apply to all wetlands and to adequate buffer or transitional areas around them.

Recommendation 25
All wetland regulations should utilize the wetland definition and the delineation procedures adopted by the U.S. federal government.

Recommendation 26

The evaluation of the cumulative effects of wetland alteration must be dramatically improved and effectively employed in permitting decisions.

Recommendation 27

Wetland regulatory programs should be designed so that those who propose to alter wetlands carry their fair share of the financial and evidentiary burdens of the application review process.

Recommendation 28

Wetland regulatory programs should consist of permitting standards that first avoid and then minimize wetland impacts, and require compensation for unavoidable impacts. These standards should be applied consistently Basin-wide.

Recommendation 29

Wetland regulatory programs must apply to public and private entities alike.

Recommendation 30

Wetland regulations must contain enforcement provisions that deter violations, and enforcement must be adequately funded and effectively exercised.

C.2) RECOMMENDATIONS FOR LOCAL REGULATORY PROGRAMS IN THE U.S. ....

Recommendation 31

Local units of government should adopt wetland protection ordinances or modify existing ordinances to provide protection offered by the model ordinance developed by the Consortium.

C.3) RECOMMENDATIONS FOR STATE REGULATORY PROGRAMS ....

Recommendation 32

All states in the Great Lakes Basin should adopt comprehensive wetland regulatory programs that meet the requirements outlined above.

Recommendation 33

All states in the Great Lakes Basin should use the Water Quality Certification provisions under Section 401 of the Clean Water Act (33 U.S.C. Sec. 1341) for wetland protection.

C.4) RECOMMENDATIONS FOR THE U.S. FEDERAL PROGRAM ....

Recommendation 34

The Consortium recommends that the current regulatory definition of waters of the United States at 33 C.F.R. 328.3(a) be changed to presume that all waters and wetlands are susceptible to use in interstate commerce.

Recommendation 35

The Nationwide Permit Program should be substantially revised to control ongoing cumulative wetland losses.

C.5) RECOMMENDATIONS FOR WETLAND REGULATORY PROGRAMS IN CANADA ....

Recommendation 36

The draft Ontario Wetlands Planning Policy Statement must be substantially revised and implemented to provide effective protection for wetlands.

Recommendation 37

All existing statutes and regulations that provide for the protection of wetlands must be used and enforced.

Recommendation 38

Local governments should adopt specific wetland protection strategies through zoning bylaws and official plan designation.

Recommendation 39

The Ontario government must immediately develop wetland protection legislation and expedite its implementation.

Recommendation 40

The Ontario government must undergo a full review of the municipal land use planning and review process to ensure that it provides adequate protection for wetlands.

D. ENDING GOVERNMENT FUNDING OF WETLAND DESTRUCTION

Wetland regulatory programs are undermined by government financial support of activities that result in wetland destruction. Governments must rectify these contradictory and uncoordinated activities. State and Federal agencies must not provide funding, directly or indirectly, for the activities that they are attempting to control or eliminate through regulation.

Recommendation 41

Government agencies should make subsidizing private activities that degrade or destroy wetlands contingent upon an assurance that the recipient has minimized wetland loss resulting from the funded activity.

Recommendation 42

Programs such as the Coastal Barrier Resources Act or Swampbuster that attempt to limit government funding of activities destructive to wetlands and coastal resources should be extended and revised.

Recommendation 43

State and provincial government should develop new programs to restrict governmental funding for public activities that destroy or degrade wetlands.

E. EXPANDING RESTORATION EFFORTS

An increase in the quantity and quality of Great Lakes wetland resources can be accomplished through restoration of previously filled, drained or polluted wetlands, and through the creation of wetlands in appropriate places. To successfully increase the acreage and function of our wetlands, restoration efforts must imitate the hydrology, water quality, and biota of comparable natural wetlands. This can be accomplished by careful planning, siting, and timing of restoration and creation projects, and by taking advantage of the many existing policies and programs throughout the Great Lakes Basin which encourage wetland restoration and creation.

Recommendation 44

Opportunities for wetlands restoration in the Great Lakes Basin should be aggressively pursued and carried out so as to recreate lost wetland functions and values.

F. IMPROVING MANAGEMENT AND RESEARCH

The Consortium's goal of an increase in wetland quality and quantity cannot be met without careful management. To enhance the quality of existing Great Lakes wetlands, the functions of each wetland site must be identified, and management efforts must support those functions.

F.1) MANAGEMENT NEEDS

Recommendation 45

Wetland management programs should seek to eliminate abusive disturbances which prevent wetlands from performing their natural functions, and must preserve and enhance critical wetland functions.

F.2) RESEARCH PRIORITIES

Recommendation 46

Research efforts should focus on applied problems at the ecosystem/watershed level, so that wetlands can be effectively protected, managed, restored, and created.

G. SUPPORTING ACQUISITION PROGRAMS

Current regulatory programs are not sufficient to halt the loss of wetlands, let alone increase the quality and quantity of Great Lakes wetlands resources. Many violations are not detected and some wetlands are so critical to the health of the Great Lakes ecosystem that we cannot afford for them to be destroyed, degraded, or improperly managed.

Recommendation 47

Programs that secure permanent protection of wetland ecosystems in the Great Lakes region through acquiring wetlands in fee, by conservation easement, purchase of development rights, or private acquisition by other means should be expanded.

H. EXTENDING EDUCATIONAL OUTREACH

Achieving the goals outlined above will require extensive communication between diverse groups and raising the awareness and support of the general public and decision makers.

Recommendation 48

Government at all levels, and non-governmental organizations, should increase public education programs about wetlands values and protection programs.

Recommendation 49

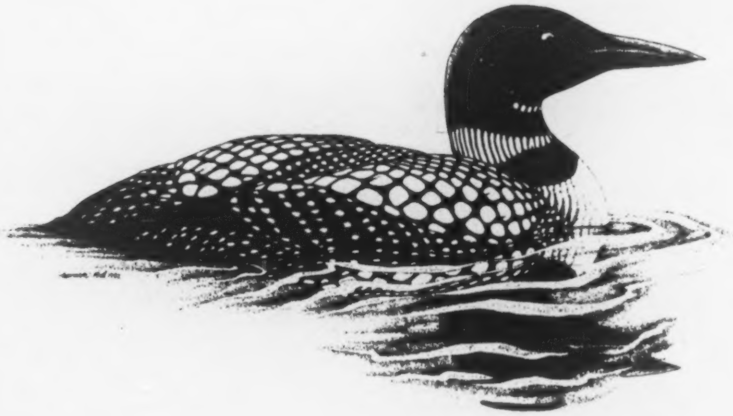
Government at all levels should improve public access to decision making.

Recommendation 50

Non-governmental organizations in the Great Lakes Basin should make wetland protection a priority by developing and presenting educational programs on wetlands, participating in decision-making, planning, and regulatory processes, and undertaking stewardship, securement, restoration, and management of wetlands.

PRESERVING GREAT LAKES WETLANDS:

AN ENVIRONMENTAL AGENDA



The Final Report of the Great Lakes Wetlands Policy Consortium

I. VISION STATEMENT

The Great Lakes ecosystem is critical to the physical and economic well-being of all who live in the Great Lakes Basin or depend on its products and services. Wetlands protect the health of this great ecosystem by improving water quality, supporting the productivity of fisheries, providing habitat for wildlife, and preventing damage from floods and erosion. Because of the essential link between wetlands and the vitality of the Great Lakes ecosystem, immediate action is necessary to increase the quality and quantity of the Basin's wetlands. To meet this goal, everyone who lives or works in the Basin, and all of the governments whose actions affect the Basin, must take responsibility for protecting and restoring its vital wetland resources.

II. INTRODUCTION

The wetlands of the Great Lakes Basin are a vital regional resource. They provide a wide range of important values to the residents of the Basin, and are essential to the functioning of the Great Lakes ecosystem. Wetlands provide vital habitat for the fish and wildlife populations of the region. They protect the water quality of lakes and streams by filtering nutrients and pollutants, which makes them critical in our fight for improved water quality and recreational opportunities. Wetlands also play an important role in minimizing damage from flooding and erosion. The region simply cannot afford to lose the economic gains that result from these wetland functions.

Wetland Losses in the Great Lakes Basin

There is an overall lack of information regarding the original extent of wetlands within the Great Lakes Basin and the losses that have occurred. The most comprehensive collection of available data can be found in a report entitled "State of the Great Lakes Environment: Wetlands", prepared by Philip Weller for Environment Canada in 1988. The figures presented below are referenced in that report.

Wetland quantity and quality have dramatically declined since the arrival of European settlers in the Great Lakes region in the late 1700's. Historically, wetlands in the Basin were considered to be wastelands with little value, and hindrances to economic development. Massive conversion efforts for agriculture and development dramatically reduced the wetland acreage in the region.

Detailed estimates of the previous extent of wetlands within the entire Great Lakes Basin prior to settlement are not available. Estimates for individual states such as Indiana, Illinios, and Michigan indicate, however, that wetlands represented approximately 30% of the land area. Estimates for southern Ontario are that pre-settlement wetlands comprised about 25% of the landscape.

It is difficult to judge the extent of wetland loss since settlement because there is no definitive baseline data to compare with more current figures. But in states and provinces where losses have been documented, they have been substantial. In areas of southern Ontario, for example, the conversion of wetlands to other uses has exceeded 80% of the original acreage. In Michigan, wetlands have been reduced by up to 70%.

According to the Wetland Loss Report published by the U.S. Fish and Wildlife Service in 1990, about 53 percent of the 217 million acres of wetlands in the lower 48 states have disappeared since the 1780s. Moreover, substantial losses continue to occur. According to the report, 52 acres of wetlands are lost every hour, for a total of 455,000 acres per year. A substantial proportion of those losses have occurred in the Great Lakes region. Forty-one million acres, or approximately one third of all the wetlands lost in the U.S. have disappeared from the seven midwestern states of Illinois, Indiana, Iowa, Ohio, Michigan, Minnesota, and Wisconsin, six of which are partly within the Basin. The report attributes the great majority of the losses in these states to agricultural conversions. Little data is available about wetland losses in the other two states within the basin, New York and Pennsylvania.

The Need for a Wetlands Protection Agenda

For the Great Lakes region as a whole, only about 30% of the original wetlands remain intact. This means that wetland loss within the Basin is significantly greater than for the United States as a whole. In Canada, wetland losses have been extensive in southern Ontario. Because losses have been so great within the Basin, a regional strategy is necessary to preserve the remaining wetlands, and to increase the quality and quantity of the overall wetlands resource through restoration of degraded or destroyed wetlands.

Protecting the remaining wetlands is vital to maintaining a healthy ecosystem and will require a coordinated effort on the part of all levels of government as well as the private and non-profit sectors. The absence of coordination in the past has resulted in irretrievable losses to the ecosystem. A carefully coordinated and comprehensive program for wetland protection is needed. This program must include planning, incentives for private preservation, regulations and enforcement, expanded restoration efforts, research and management, increased acquisition of wetlands, and improved educational outreach.

Our growing understanding of the important functions and values provided by wetlands has made it clear that we must plan for the protection of the remaining wetlands in the Basin. Certain aspects of this program may be seen by some as an unnecessary government intervention, or an impediment to growth. In fact, this program will protect wetlands that are essential to a healthy Great Lakes. Our remaining wetlands are critical to the protection of water quality, fish and wildlife habitat, human health, and a healthy long-term economic environment. The 42.5 million people who live in the Great Lakes region rely on the Lakes for drinking water, recreation, and commerce. The Lakes in turn rely on wetlands to filter runoff, to help "purify" water, to exchange groundwater, and to provide habitat essential for fish and wildlife populations.

The Great Lakes Wetlands Policy Consortium includes the major United States and Canadian environmental and conservation organizations active in wetlands protection in the Great Lakes Basin. This international group has extensive experience with wetlands and with current protection programs. The recommendations of the Consortium propose a coordinated, international approach to preserving the wetlands of the Great Lakes ecosystem. Such an approach is necessary because political boundaries do not control ecosystem functions. The Great Lakes ecosystem can only be restored if all levels of government on both sides of the Basin take an aggressive approach to protecting our remaining wetlands, and to increasing the quality and quantity of our wetlands resources.

Geographic Area Where This Report Is Relevant

The recommendations contained in this report were developed specifically for the Great Lakes region. They are intended to apply to the drainage basin of the Great Lakes, and also to the entire jurisdictions of the political units within the basin, including the eight Great Lakes states and Ontario. Most regulatory programs, and many other programs relevant to wetland protection such as easement regulations, tax law, etc. function at the state and provincial level. In addition, data on wetland extent and losses are collected at this level. The Consortium intends these recommendations to apply to all wetlands within this area, including coastal wetlands along the Great Lakes shorelines, as well as inland wetlands.

Most of the recommendations in the report are also applicable to the upper St. Lawrence River Basin, in New York state and in Ontario and parts of Quebec. In addition, many of the recommendations on federal policy would work to protect wetlands outside of the Great Lakes basin.

III. AREAS OF OPPORTUNITY: WETLAND POLICY ISSUES AND RECOMMENDATIONS FOR CHANGE

A. IMPROVING REGIONAL COORDINATION AND PLANNING

Each of the various levels of government in the Great Lakes Basin makes key decisions that influence or decide the fate of wetlands. Federal policy, state and provincial planning and management, and county, township, and municipal land use decisions together contribute to the maintenance or destruction of wetlands. Often these government actions are taken without adequately assessing the full range of wetland values. Wetlands provide environmental, social, and economic values, in both the short term and the long term. Unfortunately many decisions are made with an eye only to short-term values, and often exclusively economic values.

Non-governmental organizations play a key role in monitoring and reinforcing the actions of government and the private sector. Wetlands are not unused lands awaiting a higher and better use; rather, wetlands are essential components of the Great Lakes ecosystem. Non-government organizations must communicate this fact to the members of the public, stir them to action, and keep them motivated.

A.1) INTERNATIONAL RECOMMENDATIONS

Canada and the United States have a long history of cooperation and coordination on Great Lakes environmental concerns. The Boundary Waters Treaty of 1909 was the first major initiative to jointly address cross-border environmental concerns. Since that date, the two countries have entered into additional formal agreements including the Migratory Birds Convention, the Great Lakes Fishery Convention, and the Great Lakes Water Quality Agreement.

These historic agreements have addressed international concerns such as water quality, fisheries, and waterfowl management as though they were unrelated. There is increasing recognition, however, that water quality, water quantity, and fisheries and wildlife management are not isolated concerns but inter-related issues.

The Great Lakes Water Quality Agreement (GLWQA) articulates a revised approach to management in the Great Lakes region. The 1978 Agreement introduced the concept of an "ecosystem approach". An ecosystem approach requires an integrated holistic approach to management.

Wetland habitat is a central issue in each of the formal agreements. Wetland areas are essential to the protection of water quality, and to fisheries, migratory waterfowl, and other wildlife. In addition, wetlands are affected by water level fluctuations.

Recommendation 1

The agencies and organizations responsible for implementing the Great Lakes Water Quality Agreement (GLWQA), the Great Lakes Fisheries Convention, the Migratory Birds Convention, the North American Waterfowl Management Plan, and for controlling Great Lakes water levels must integrate their respective activities and plans which affect the protection and management of wetlands.

The activities, plans and programs of the agencies responsible for the GLWQA, the Great Lakes Fisheries Convention, and the North American Waterfowl Plan should be compared for their adequacy, compatibility, and to ensure their comprehensiveness with respect to wetlands protection. Where inadequacy exists, these activities, plans, and programs should be modified to incorporate wetland considerations.

Recommendation 2

The Great Lakes Water Quality Agreement (GLWQA) should be utilized to protect wetlands. The United States and Canadian federal governments should initiate activities necessary to fulfill their obligation for wetland protection pursuant to Annex 7 and Annex 13 of the existing Agreement. When the GLWQA is next reviewed by both governments, a new Annex dealing specifically with wetlands should be added.

In its 1989 report to the International Joint Commission, the Water Quality Board identified the importance of wetlands to water quality issues. Our increasing recognition of wetland importance is also reflected in the GLWQA. Under Annex 7 of the GLWQA, the Parties agreed to identify and preserve significant wetlands that were threatened by dredging and disposal activities. Annex 13 of the Agreement also calls for identification, preservation, rehabilitation, and restoration of significant wetland areas threatened by urban and agricultural development and by waste disposal facilities. To date, the Parties have not undertaken these activities.

The Science Advisory Board of the Commission in its 1989 report introduced the concept of Natural Heritage Areas, which includes wetlands. The Board notes, "Protection of ecological diversity and centers of biological organization within the Great Lakes ecosystem must be a vital component of commitment to an 'ecosystem approach'". The Board proposes that these important natural heritage areas be established and Heritage Area Security Plans be developed to protect them.

2a. The Consortium endorses the Science Advisory Board's recommendation that, "The Parties consider developing a new Annex to the Great Lakes Water Quality Agreement concerning Heritage Area Security Plans that incorporate formal recognition of the planning process to conserve pristine locales in the coastal zone."

2b. The Consortium supports the recommendation of the Water Quality Board to the Commission that, "The Parties, in cooperation with state and provincial governments, establish and maintain a registry of information on wetland loss."

2c. The Consortium supports the recommendation that, "The Parties, in cooperation with state and provincial governments, evaluate the effectiveness of current wetland legislation and policies to protect and restore wetlands and to maintain natural aquifers, stream flow and other factors critical to wetlands."

A.2) RECOMMENDATIONS FOR PROVINCES, STATES, AND LOCAL GOVERNMENTS

Recommendation 3

The Great Lakes provinces and states should adopt Basin-wide principles for wetland conservation and restoration, as they have done for water supply (Great Lakes Charter) and toxic substances (Toxic Substances Control Agreement).

In recent years, the states and provinces in the Great Lakes region have attempted to expand their cooperative agreements for managing the Great Lakes ecosystem. They have signed the Great Lakes Charter, which deals with water quantity issues, and the Toxic Substances Control Agreement, which outlines programs to reduce toxic chemicals. These initiatives have been very positive developments and have reinforced the idea of cooperative management of the ecosystem. The states and provinces can have a major impact on wetland protection and restoration. The states and provinces should join together to adopt principles for wetlands conservation and restoration as they have done with water quantity and toxic substances.

The adoption of a Wetlands Charter would lay out a framework for expanded wetlands protection efforts and would signal a strengthened commitment from the states and provinces to that goal. Such a charter would be an ideal way to expand informal and formal cooperation to achieve wetlands protection. Development of consistent definitions of wetlands, consistent data for reporting losses and gains, and joint research should all be a part of the commitments of the charter.

Additionally, such a charter should involve a commitment from the states and provinces to develop comprehensive wetlands plans. These plans would lay out goals and objectives consistent with the charter and would specify legislation and programs necessary to achieve the goals of the charter.

A Provincial/State Wetlands Charter should commit the provinces and states to:

- complete their inventories of the Basin's wetlands;
- develop a uniform system of information transfer to share technical information on wetlands;
- eliminate subsidies for agriculture or development that encourage the drainage, dredging, filling, or diking of wetlands;
- control losses of privately owned wetlands through appropriate planning, zoning, regulations, and fiscal policies;
- identify and protect critical and "heritage" wetlands;
- consult with each other prior to approving major alterations of critical and heritage wetlands;
- develop, through their environmental administrators, a joint, regional strategy to implement the agreement;
- publish an annual report on the status of the agreement and progress in implementing it;
- provide funding to implement these principles.

The Governors and Premiers should pledge not to compete for development by lowering wetland protection standards.

To allow for future evaluation and the establishment of wetland protection priorities, standardization should be emphasized. This should include wetland definitions, delineation methodologies and training, mapping scales and quality assurance, and the geographic information system to be utilized.

Recommendation 4

Each province and state should prepare comprehensive wetlands plans and enact the legislation and regulation needed to implement the Basin-wide wetland principles recommended above.

In addition, these wetlands plans and implementing legislation should commit the province or state to:

- Prepare a wetlands inventory;
- Establish goals and objectives for wetlands protection and creation;
- Describe the relationship of the provincial/state wetland plan to other state, local and federal plans (i.e. fisheries, water quality, etc.);
- Conduct an annual assessment of wetlands status within their jurisdiction;

- **Examine their fiscal policies to identify any disincentive to local governments and landowners who conserve wetlands, and revise their tax policy to remove these disincentives so that wetlands are taxed on their conservation, not development, values;**
- **Examine platting procedures to ensure that only lots with developable upland are created;**
- **Assess cumulative impacts.**

The Conservation Foundation's report, "Recommendations For Comprehensive State Wetlands Programs" (October 1988), provides a beginning outline for provincial/state planning programs.

Recommendation 5

The states and provinces should include wetland specialists in Remedial Action Plan (RAP) development teams and encourage wetland protection and restoration in the goals, recommendations, and remedial measures for each area of concern identified by the International Joint Commission.

Loss of fish and wildlife habitat is a significant problem in many of the basin's Areas of Concern (the 42 persistently polluted harbors and nearshore areas identified by the International Joint Commission). In others, urban and rural runoff and other non-point sources of pollution contribute to the degradation of the Area of Concern.

Protecting and restoring wetlands could assist in remediating both of these problems. Unfortunately, too few Remedial Action Plans consider wetland issues, or propose wetlands conservation or restoration in their remedial measures.

Protecting and restoring wetlands is integral to the "ecosystem approach" which RAPs are supposed to embody. Wetlands issues should be considered as RAPs are completed and updated in the future.

Recommendation 6

Each local government should review wetland inventories in its jurisdiction and prepare plans and zoning ordinances to protect its wetlands from conversion and from the adverse effects of adjoining land use. Local wetlands conservation plans should be consistent with the plan of the province or state.

Specifically local governments should:
- review state or provincial wetland inventories prepared for their area to correct any errors;
- assess how planned or permitted development, including construction, urban runoff, and public works, will affect these wetlands;
- revise their community plans and zoning ordinances to protect wetlands from adverse effects and to mitigate unavoidable impacts. This should include protecting wetlands as undeveloped open space, retaining natural buffer areas between wetlands and development, controlling runoff, protecting water quality, and restoring degraded areas to compensate for unavoidable losses.

A.3) RECOMMENDATIONS FOR NON-GOVERNMENTAL ORGANIZATIONS

Non-Governmental Organizations (NGO's) have the opportunity and responsibility to ensure that various levels of government and individuals conserve the wetlands of the Great Lakes. Members, associated organizations, and staff of NGOs should follow through on the recommendations of this report and undertake additional individual initiatives for wetland protection.

Recommendation 7

A network of concerned organizations should be established to coordinate Basin-wide initiatives and to build and carry momentum for wetland protection.

Specific actions include:
- share expertise;
- develop a network newsletter;
- develop a joint communication strategy for local direction;
- coordinate an annual report card on government progress;
- orchestrate a Basin-wide wetland campaign;
- host an annual wetland forum and strategy meeting among environmental and conservation groups
- host regular meetings between regulatory agencies and environmental and conservation groups
- participate in hands-on restoration efforts
- educate citizens about wetlands values and protection.

Recommendation 8

Non-governmental organizations should launch a Basin-wide wetlands stewardship program, and should assume a leadership role in orchestrating a proactive, coordinated approach to increasing the quality and quantity of Great Lakes wetlands.

Activities should include:

- **inventory potential quality wetland sites;**
- **develop a list of priority sites for securement through acquisition, zoning, easement, etc.;**
- **develop training programs to increase citizens' knowledge, skill, and expertise about wetlands;**
- **mobilize and orchestrate citizen action at the local level to protect wetlands from development and pollution;**
- **encourage wetland watch programs to standardize and record monitoring of priority sites and support intervention to protect them;**
- **launch a landowner contact program where landowners of priority sites receive direct/indirect contact and are provided with options for protection;**
- **monitor regulatory effectiveness;**
- **buy wetlands or conservation easements on wetlands.**

B. INCREASING INCENTIVES FOR WETLAND PRESERVATION

The goal of increasing the wetland resources of the Great Lakes must be led by individual wetland landowners. Individuals, organizations, and businesses all have a responsibility to do whatever is possible to preserve and increase the region's wetland resource base. Because of an increasing understanding of the diverse values of wetlands, and the widespread loss of wetland resources, many people recognize the important functions wetlands serve in the ecosystem. Landowners are being asked to move rapidly beyond awareness to personal action, and to accept individual responsibility for preserving wetlands.

Nevertheless, at least two generations of people living today developed attitudes towards wetlands at a time when draining them was commonly considered a public benefit. Governments can encourage private stewardship by creating economic and other incentives for private conservation of wetlands.

Wetland programs must be designed and implemented to take advantage of the willingness of many landowners to voluntarily carry out wetland protection and management programs. Appropriate incentives are essential to developing the social and economic support necessary for private conservation efforts. To encourage private landowners to manage these resources in the long-term public interest, all levels of government, as well as non-governmental organizations, must improve and coordinate systems of incentives to encourage conservation of wetlands. The positive approach of providing incentives to encourage wetland conservation is particularly important during this time when public awareness of wetland values is increasing rapidly.

A broad array of voluntary incentives for wetland protection must be initiated at every level of government. The public's interests in wetlands protection must be linked to the private economic need to conduct profitable resource-based enterprises. The emphasis should be on public sharing of private costs. For example, modification of liability laws could encourage alternative economic ventures dependent on prime wildlife habitat like fee hunting or trapping enterprises, to be established. Wetlands values might then be more obvious to the public. However, not all incentives are economic. Awards programs, including landowner recognition events, provide a non-economic incentive to encourage conservation and private land stewardship, and can be utilized by governmental or private entities.

The Great Lakes Wetlands Policy Consortium recommends implementation of the following incentives. Many are appropriate for implementation by several different levels of government. Some can be initiated by private organizations. Most of these incentives already exist in some form, but we urge all levels of government to be creative in expanding existing incentives and developing new ones.

B.1) DIRECT AND INDIRECT PAYMENTS

Incentives include direct and indirect financial compensation to landowners who protect wetlands, and also those who manage them to enhance their attributes. Direct payments are the most favored incentives by landowners, and will continue to be an important feature of wetlands protection programs in the 1990's. The Great Lakes Wetlands Policy Consortium supports the following recommendations:

Recommendation 9

Existing programs offering direct payments to landowners who protect and enhance wetlands should be expanded.

This type of incentive includes existing programs like Water Bank (P.L. 91-559 of 1972) and the Conservation Reserve Program (16 U.S.C. Sec. 3831), both administered by the U.S. Department of Agriculture. Both of these programs should be expanded, and similar programs should be developed for urban wetlands.

The Consortium urges Congress to increase appropriations to the $30 million annually authorized for the Water Bank Program (WBP). Water Bank pays farmers who agree not to farm existing wetlands, with payments renegotiated every ten years. WBP operates primarily in migratory waterfowl flyways, and has characteristically offered small payments for wetlands and adjacent habitat. Despite this, in many areas there have been more farmers interested in participating than the budget has been able to accommodate. A 1979 General Accounting Office report lauded the program, encouraging its expansion to include wetlands identified as valuable for reasons other than habitat.

The Consortium also supports expansion of the Conservation Reserve Program (CRP) to 45-55 million acres. This program, authorized by the Food Security Act of 1985, pays farmers who set aside environmentally sensitive lands for 10 years, planting them to soil holding covers of grasses or trees, or in some cases restoring wetlands on the contracted acres. The program has been chronically underfunded, and full appropriations are necessary to ensure its effectiveness. The CRP was initially designed to protect highly erodible land, but over time, it has been modified to include buffer strips along streams, lakes, and wetlands, and "farmed" wetlands. The program pays an average of $55 per acre, to as high as $85 in some areas. One of the problems with this wetland protection measure has been that when farmed wetlands are enrolled, CRP rules do not require restoration of or management for wetland values. The CRP is a popular program, involving 33 million acres.

The CRP program needs improvement. The wetlands restoration options should be maintained, and the "farmed" wetlands portion of the CRP should be improved. Currently, "emergency" haying and grazing occurs much too often on protected wetlands. A wetland retirement option should continue to be part of the program.

Even with these improvements, however, the CRP program only protects wetlands for a ten year period. This means that public money must be expended again and again to ensure the long-term protection of the same acreage. Programs that secure long-term protection may be a more cost-effective option in the long term.

Recommendation 10

All levels of government should require permanent easements on wetlands in exchange for direct payment under incentive programs.

Restrictions can last for varying lengths of time, typically from 20 to 50 years, or they may be "perpetual," prohibiting certain uses of the land forever, such as cropping or development. In the U.S., such restrictions can also be employed by all levels of government and by nonprofit organizations. In Ontario, easements can only be held by the government, primarily through the Ontario Heritage Act.

Some programs run as little as 10 years, such as the 10 year easement in Michigan's Farmland and Open Space Act (P.A. 116 of 1974). Longer term restrictions are more desirable because they are usually more cost-effective than short-term programs. The Reinvest in Minnesota Program (RIM) is a good example that employs long-term easements for a range of conservation purposes, including wetlands protection. A mix of easement time periods and requirements is best to appeal to landowners in different situations. Payments can be up-front or over some specified length of time. Easements may or may not allow for public access.

In 1985, two new conservation easements were initiated as part of the Food Security Act (hereafter referred to as the Farm Bill), to be administered by the Farmers Home Administration (FmHA). One of the provisions allows for easements on FmHA inventory property (16 U.S.C. Sec. 1314), while the other allows landowners to trade an easement to the government for a portion of their farm debt (16 U.S.C. 1318). Unfortunately, these programs have not been utilized to the degree anticipated. The Consortium urges USDA and Farmer's Home to better utilize this opportunity to protect wetlands.

In Canada, the Consortium urges the province of Ontario to expand the administration of conservation easements to allow non-profit organizations to hold easements that are donated by or purchased from willing landowners.

It is important to note that management of use restrictions can be a problem, particularly if land changes ownership. Provisions for ongoing monitoring and enforcement are essential to assure that use restrictions are respected.

Recommendation 11

State, provincial, and local governments should develop or expand programs to purchase development rights and recreational rights for wetlands and adjacent buffer areas.

In practice, purchases or transfers of development rights are a type of deed restriction easement that prohibits future development of a piece of property, but allows current uses to continue. A number of states currently purchase development rights on farmland, as part of farmland preservation programs. Similar programs should be developed for wetlands.

Recommendation 12

Where appropriate, due to higher land values, governmental entities should develop separate acquisition programs for urban wetlands.

Development pressures are usually strongest in urban areas, where land prices make remaining wetlands valuable for development. Most existing programs, however, are designed for rural wetlands. This means that they are unable to secure protection of the relatively highly priced wetlands in urban areas.

Easements and purchase of wetlands should be components of government acquisition programs. Because cities do not like to lose tax base any more than rural areas, such programs should link wetland acquisition with municipal revenue generators, like waterfront development or public works projects. Another option is to share the costs of tax changes with the city. An approach for revenue sharing would be to give school districts extra funds if certain wetland preservation programs are in place.

B.2) INCOME AND PROPERTY TAX INCENTIVES

Income and property tax incentives are effective methods to encourage certain types of land use by property owners. The tax structure has an important influence on land use. Taxes can provide overwhelming pressure to develop wetlands, they can have a neutral effect, or they can encourage enhancement of wetland resources. The Consortium recommends that taxing entities at every level implement tax code incentives that encourage protection of wetland resources.

Recommendation 13

All levels of government should provide property tax relief to landowners who protect wetlands.

States or locales that do not already provide reduced property taxes for wetlands should develop programs that encourage wetland preservation. Such protection results in reduced local costs for flood control, higher quality of life through recreational opportunities, increased values in adjoining developable land, and a host of other economic benefits.

In spite of these values, there is often local resistance to any measures that reduce property taxes because of fears of losing tax base. For this reason, it is best if at least part of the reduced valuation can be shared among all the taxpayers within the particular governmental unit. Nonetheless, there needs to be a continuing effort to educate local governments on the benefits that accrue from protecting wetlands and other environmentally sensitive lands, such as improved water quality, flood control, and tourism and recreation related to wildlife habitat and scenic diversity. If wetland property which has received reduced property tax assessment is converted to non-wetland, the taxing entity should recoup back taxes at the full assessed value, plus interest.

Ontario provides property tax relief to landowners through the Conservation Land Tax Reduction Program. Under the Conservation Land Act of 1988 (S.O. 1988), a 100% property tax rebate is available to willing landowners who own provincially or regionally significant wetlands. To participate, landowners must sign an agreement to allow the Ministry of Natural Resources staff on the property, and they must agree to leave the area in a natural state. Property taxes are paid as usual to the municipality, and then the provincial government is applied to for a rebate. This ensures that the municipal tax base is not affected by the measure. The agreement runs with the title of the land, and must be assumed by any future owner. To break the agreement, the landowner must repay all rebated taxes plus interest accrued over the previous ten years. This program should be used as a model, and adopted by states in the Great Lakes Basin.

Recommendation 14

States and provinces should develop Managed Wetlands Acts, similar to existing forest management acts, that pay part of the local property taxes on wetlands that are preserved and managed by private landowners.

In a Managed Wetlands Act program, the state or province would assume part of the local property tax for a landowner who agrees to protect and manage a wetland. Programs should include a two-tiered approach, similar to Wisconsin's forest law, whereby the property tax would be reduced to one level if public access is restricted, or to a much lower level per acre if the landowner agrees to allow public use. An alternative approach is to tie into an existing farmland preservation program, offering extra payments for inclusion of wetlands with other areas protected under the program.

Recommendation 15

All levels of government should provide tax credits for restoration of wetlands.

Tax credits should be available to landowners who voluntarily create or enhance wetlands. Wetland restoration would increase if there were clear benefits to landowners from undertaking such efforts. Because a wide range of social and economic benefits result from wetland restoration, tax credits for such efforts are appropriate.

In most current programs, property taxes are deductible, but costs for management are not. Adding management costs to deductible expenses would provide a new incentive for management of wetlands to conserve their important functions.

Recommendation 16

The U.S. federal government should correct problems with existing tax law to increase the income tax incentives for conservation gifts to nonprofits or governmental entities.

The U.S. Federal government should allow deductions for a wetland gift of up to 50 percent of adjusted gross income and to allow carry-forward provisions for such donations to be extended to 10 years.

Prior to the Tax Reform Act of 1986 (P.L. 99-514 of 1986), all donors of appreciated property (land, easements, securities) could claim an income tax deduction for the full fair market value of the property at the time of the gift. In 1986 this was changed, reducing the federal tax incentives for private wetlands protection. For instance, gifts of appreciated property are only deductible against 30 percent of one's adjusted gross income, while gifts of cash and ordinary income property are deductible against 50 percent of adjusted gross income. If the gift cannot be fully utilized for deduction purposes in the year of the gift, the unused portion of the deduction can only be carried forward for up to five additional years, and if the taxpayer dies before the deduction is used up, the unused portion will never be deductible. Rules for property exchanges have also been tightened, and the tax-free exchange benefits have been limited to $100,000.

In addition, the 1986 Tax Reform Act includes complex changes that made the appreciation value of a gift a "tax preference item" for purposes of calculating the Alternative Minimum Tax (AMT). The taxpayer who donates property that cost $100,000 many years ago, but which is now worth $500,000, gets the benefit of a tax deduction on only $100,000 if the taxpayer is subject to the alternative minimum tax, thus losing a deduction on $400,000. Moreover, a single, substantial charitable contribution can sometimes move a taxpayer into the AMT category. This provision, which has made donations of appreciated assets, including environmentally sensitive lands, less attractive to potential donors should be changed for cases in which gifts are made to nonprofits or governmental units for conservation purposes.

Recommendation 17

State tax codes should allow qualified donations of wetland and adjacent buffer lands to governmental or nonprofit entities to be treated as deductions from ordinary income with limits and carry forward provisions allowing the taxpayer(s) to deduct the full value of the wetland and buffer area over time.

Qualified donations could be made outright, or in the form of a permanent easement. In addition, any cost sharing for conservation-related activities should be specifically exempted from consideration as income for tax purposes. For example, some states now consider payments to landowners in the form of cost-sharing for management activities to be income paid to the individual. The resulting tax burden can significantly decrease the attractiveness of the cost-sharing program to the landowner.

Recommendation 18

State natural resource agencies and departments of agriculture should cooperate to develop their own state "debt for nature" easement program similar to the Farmers Home Administration program.

This program currently provides mortgage relief to farmers who place long-term easements on their property. This type of program should be established for wetlands. Such a program might be applicable in cases where state funds have been used to support small businesses or beginning farmers. Lands eligible for inclusion in such a program should not be precluded from participation in federal programs like the CRP or FmHA easement programs. Instead, benefits from different programs should be added to make the incentive more attractive.

B.3) OTHER INCENTIVES

Creative programs that are not strictly economic can be developed to encourage private stewardship. It is this area that can probably be utilized most effectively by nonprofit organizations, and some of these "other incentives" are even suited to individual initiatives.

Recommendation 19

Technical Assistance and cost sharing should be provided to landowners who want to restore or enhance wetlands.

Technical assistance can be an important encouragement for conservation-oriented landowners. It is appropriate to help those who want to plan any wetland changes, manage wetlands for desired goals, or restore or create wetlands. Governments should adopt criteria to guide wetland owners, particularly with respect to restoration or creation, but technical help to implement such guidelines can come from a variety of sources.

In Ontario, two government programs encourage landowners to restore and enhance wildlife habitat. These are the Community Wildlife Involvement Program and the Community Fisheries Involvement Program. These programs are administered by the Ministry of Natural Resources to allow volunteers to take an active role in fisheries and wildlife conservation, and combat habitat losses in Ontario. Projects that help fish and wildlife or their habitats and involve cooperation between landowners and community groups are eligible for funding.

If a particular ecosystem has suffered losses of certain types of wetlands, technical advice is very useful to recreate or enhance these types of systems. In order to qualify for cost-sharing for wetland enhancements, activity should be guided by a set of criteria established in advance and ideally, landowners should agree to some type of easement that will protect the public investment in the project.

Assistance could also be in the form of a plan developed with the landowner so that it has force as a legal agreement for management and follow-up. The U.S. Soil Conservation Service (SCS) and local Soil and Water Conservation districts are already helping farmers develop soil erosion plans. There should be incentives from the federal or state government to encourage local units of government to include wetland management in their planning efforts.

The 1990 U.S. Farm Bill contains a new program to share costs with farmers who undertake plans to reduce generation of agricultural wastes. Farmers who prepare a plan to improve water quality with the U.S. Department of Agriculture will be eligible for a $3500 cost-share. State and federal agencies should aggressively encourage farmers to enter this water-quality program and receive cost-share assistance to adopt farming techniques that lower inputs of agricultural chemicals into wetlands. Many of the areas targeted for this program are in the Great Lakes region.

Recommendation 20

State, provincial, and local governments should modify property owner liability for landowners who preserve wetlands and make them available for public uses.

Concern sometimes arises over protecting wetlands and other wildlife habitat because of liability issues. Protecting these areas can attract recreationists, anglers, hunters, and trappers, and liability laws may protect the trespasser but expose the landowner to liability lawsuits. To encourage private wetland protection, laws should be modified if necessary to better protect landowners from liability related to the public's use of their land. Also, laws should be changed to increase protection from unwarranted trespass.

Recommendation 21

Award programs recognizing wetland stewardship should be expanded.

The prestige of owning wetlands and conducting superior wetland management programs can be raised by creating awards programs similar to outstanding forestry or conservation farmer awards. One example is the Izaak Walton League of America's Wetlands Watch/Chesapeake Bay Program that sponsors awards recognizing contributions to wetland protection. In Ontario, the Natural Heritage Stewardship Program of the Ontario Heritage Foundation administers a similar program.

Recommendation 22

State, provincial, and local governments should review and amend their subdivision control and planning and zoning laws to incorporate or strengthen wetland protection incentives.

Local land development regulations can preserve wetlands by incorporating incentives for wetland protection. Innovative programs include provisions that allow greater density development in exchange for a wetlands "set aside" or restoration. Many platting acts require a certain amount of park land or open space to be developed for every set number of units. Clustering can be required through Planned Unit Developments to avoid adverse wetland impacts.

C. STRENGTHENING WETLAND REGULATORY PROGRAMS

The Consortium urges the adoption of regulatory and other legislative and administrative programs at all levels of government to stop losses of wetlands in the Great Lakes Basin. The goal of increasing the wetland resources of the region can only be met if regulatory programs control losses of existing wetlands.

All levels of government in the Basin must adopt programs that prohibit destruction of existing wetland ecosystems by regulating activities that alter wetlands and buffer areas surrounding them, and abolishing government financing of projects or activities that result in needless wetland alteration.

C.1) GUIDELINES FOR ALL WETLAND REGULATORY PROGRAMS

Wetland regulatory programs must prevent wetland loss if the Great Lakes Basin is to meet the goal of increasing wetland quality and quantity. Current programs at all levels of government in the United States and Canada are insufficient to achieve this goal. The direct and continuing loss of wetlands, through filling, draining, excavation, and other activities which degrade or destroy these systems, must stop. The quality and quantity of the Basin's wetlands cannot be increased unless regulatory programs control the loss and degradation of existing wetlands. All regulatory programs should be established or modified so that they are consistent with the following recommendations.

Recommendation 23

Wetland regulations should cover all activities such as channelization, drainage, vegetation removal, excava-

tion, and the discharge of pollutants that may degrade or destroy wetland values and functions.

The Great Lakes Basin has lost approximately 70% of the wetlands that once existed here. Of this loss, a large but undetermined percentage was due to agricultural conversions. According to a 1984 report by the U.S. Office of Technology Assessment, approximately 83% of the wetland losses in the U.S. are due to the unregulated conversion of inland wetlands, again primarily for agricultural use. Similarly, in southern Ontario, agricultural land drainage has accounted for approximately 83% of wetland losses.

No regulatory program in the basin covers all of the activities that degrade or destroy wetland functions. There is no comprehensive wetlands legislation in Ontario or the states of Indiana, Ohio, or Pennsylvania. In the Great Lakes states that do have such legislation, many activities are not covered. For instance, agricultural or silvicultural activities are largely exempted. Most programs make no attempt to regulate indirect degradation of wetlands from such things as nonpoint source pollution or activities occurring in areas neighboring, or upstream from, wetland resources.

The protection offered by Section 404 of the Clean Water Act (33 U.S.C. Sec. 1344) is clearly lacking because it only covers "discharges" of "dredged or fill material" from "point sources." For instance, activities such as the dredging of wetlands, as long as the dredged material is not redeposited in the wetland, are not covered by the federal section 404 program. Other activities, such as the removal of vegetation from wetlands or their excavation, draining, channelization, or the discharge of wastewater, stormwater, and other pollutants are not covered if there is no discharge of dredged or fill material to the wetland. In addition, the U.S. federal regulatory agencies have at times claimed that certain types of discharge are de minimis and thus not subject to regulation, despite the fact that such determinations have resulted in the destruction of vast expanses of wetlands.

In short, there is a definite need for legislation on the local, state and provincial, and federal levels which regulates all activities which degrade or destroy wetland values and functions.

Recommendation 24

Wetland regulations should apply to all wetlands and to adequate buffer or transitional areas around them.

Regulatory laws should presumptively cover all wetland resources and appropriate buffer or transitional areas, regardless of size, function, ecological or economic value of the wetland.

This is not to say that general permits cannot be devised for activities that do not degrade wetlands and that are necessary for other important public purposes, such as the placement of navigational guides and other like activities with only minimal or temporary impacts. Nor does this recommendation mean that a permit may not be granted simply because activities in wetlands must first undergo review by a regulatory agency and the public. Where wetland access is necessary and a public need for the activity is evident, wetland permits may be granted if all steps are taken to minimize impacts and compensate for any losses that occur unavoidably. Without initially including all wetlands in such an examination before wetlands are altered, however, the goal of increasing the Great Lakes wetlands base cannot be met.

Currently, many existing wetland regulatory programs suffer from size limitations on regulated wetlands. Ontario's draft wetland policy, for example, does not apply to wetlands less than 2 hectares (approximately 5 acres). New York's freshwater wetlands regulatory law, does not currently regulate wetlands under 12.4 acres in size, except in limited circumstances. Program managers recognize that this is a serious weakness in the law and are recommending that this size limitation be eliminated. All levels of government should learn from past experience that wetlands cannot be protected if destructive activities in them are not regulated.

In addition, many activities in areas immediately surrounding wetlands have deleterious effects. Regulatory programs must address this continuing source of unregulated wetland impacts. The states of New Jersey and Maryland, for instance, have both recently adopted non-tidal wetland regulatory legislation that regulates activities in buffer areas around wetlands to more adequately limit their degradation.

Recommendation 25

All wetland regulations should utilize the wetlands definition and delineation procedures adopted by the U.S. federal government.

All government entities operating regulatory programs in the Great Lakes Region should adopt a common definition of wetlands for regulatory purposes. Because the U.S. federal regulatory agencies have agreed on such a common definition of wetlands (33 C.F.R. 328.3(b)), the Consortium recommends this definition to other government entities in the Region: "Wetlands are areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

Additionally, Great Lake states and provinces should adopt the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, released in January 1989, and any strengthening revisions, for making jurisdictional determinations under their state wetland regulatory laws. Many states have already made their wetland definition and their delineation method consistent with the U.S. federal government's, and the Consortium applauds this move.

It is a difficult task to delineate wetland limits fairly and consistently even with a common definition and methodology. Without this common basis, there is a far greater chance that such determinations will be widely variable between the states and provinces and the federal governments. Even though some states and the province of Ontario have similar definitions that contain some or all of the elements of the U.S. federal definition, disagreements will continue to occur among jurisdictions unless the definition and delineation procedures are standardized.

In addition, regional mapping efforts should utilize a common definition of wetlands. Many state and provincial mapping programs currently use different wetland definitions, and these often differ from federal programs. The result is that information on the location and extent of wetlands within the Great Lakes Basin is difficult to compare. Use of a common definition of wetlands for mapping programs would improve regional planning efforts using the resulting maps. Obviously, implementation of this recommendation would be necessary before resource agencies could utilize the common definition for mapping.

Recommendation 26

The evaluation of the cumulative effects of wetland alteration must be dramatically improved and effectively employed in permitting decisions.

If wetland permit decisions are to advance beyond consideration of individual impacts to the cumulative impact of any particular wetland alteration, federal, state and provincial, and local agencies must begin to keep competent data on wetland alterations and their cumulative effects.

Decisions whether to grant wetland permits are often made on a piecemeal basis, with no consideration of the effect of a particular decision on the overall functioning of the ecological system. This occurs because the agencies responsible for regulating wetland conversion do not have adequate data on the historical and continuing losses, in terms of location, acreage, or functions of wetlands lost. The scientific community cannot assess the cumulative impact of particular conversions without this fundamental data. The U.S. General Accounting Office's 1988 Report to the Chairman of the Subcommittee on Investigations and Oversight, Committee on Public Works and Transportation, House of Representatives (GAO/RECD-88-110, July 1988) identified the lack of such basic data as one of the primary flaws in the U.S. federal agencies' administration of the 404 program (GAO/RECD-88-110 pp. 20-23).

This shortcoming underscores the need for regulatory programs to cover all wetlands, as recommended above. Without a mechanism to require a permit for activities conducted in wetlands, there will be no means by which to compile data on the wetland losses that are occurring.

Similarly in Ontario, the Environmental Assessment Advisory Committee to the Minister of Environment recently concluded in Report No. 38 on the Ganaraska Watershed that "the Province should recognize that the existing land use planning and review process does not provide satisfactory means of protecting the environment, especially from the negative cumulative effects of intensifying land use."

The Consortium therefore calls for federal, state, and provincial regulatory and resource agencies to compile competent data on the location, acreage, and functions of wetland activities that are permitted, both under individual and general permits. In addition, the same information should be kept concerning wetlands subject to enforcement actions that are not permitted after-the-fact and those that are lost as a result of activities or conditions that do not require a permit (e.g., natural losses occurring as a result of prior alterations). In other words, all activities or events that affect the extent and functioning of wetlands not caught in the traditional permitting net.

This information should be accessible to private and public agencies. The extent of affected acreage should also be superimposed on maps for each state or province so that watershed and other ecological systems analysis can account for wetland conversions.

We realize that the evaluation of wetland functions is the subject of continuing research efforts, not to mention the state of the science regarding the evaluation of the cumulative impact of any particular wetland alteration (e.g., on a watershed, let alone a wider scale). The state of these sciences can and must be improved over the long run.

Dr. Barbara Bedford has outlined the steps necessary to undertake a cumulative impact analysis in a paper entitled "Increasing the Scale of Analysis: The Challenge of Cumulative Impact Assessment for Great Lakes Wetlands". The paper will be published as part of the proceedings for the Association of State Wetland Managers conference on Wetlands of the Great Lakes. Regulatory programs at all levels of government should undertake a cumulative impact analysis according to the methodology outlined in the paper.

Recommendation 27

Wetland regulatory programs should be designed so that those who propose to alter wetlands carry their fair share of the financial and evidentiary burdens of the application review process.

Presumptions and burdens of proof and cost are very important elements of any regulatory scheme. Whether they are clearly articulated or not, they exist or come to exist de facto.

The party who bears the burden of proof, or who must overcome a legislatively created presumption, has to produce clear and convincing evidence that he or she has met a particular requirement of the law. For instance, in the U.S. Federal Clean Water Act Section 404(b)(1) Guidelines, it is presumed that if an activity is not "water dependent," there are less environmentally damaging alternatives to the activity's taking place in a wetland. That presumption means that the applicant bears the burden of proving that there are no less environmentally damaging alternatives.

Any wetland regulatory program should contain presumptions favorable to the preservation of wetlands. For instance, the applicant for a permit to conduct activities that will cause alteration or degradation of wetland functions should carry the burden of proof for the permitting standards outlined under the next recommendation. Such presumptions and distributions of the burdens of proof on the applicant not only serve to protect wetlands, but also can be crafted to lessen the financial and other resource burdens on the regulatory agency.

For instance, one state outside the basin requires the applicant to bear the responsibility for public notice of its permit application according to specified requirements. Michigan frequently requires the applicant first to delineate the wetland area, after which the state verifies its accuracy. Some states are requiring applicants for wetland alteration permits to pay a fee that is related to the administrative costs of the agencies' review of the permit application. Channeling fees for permit applications and civil and criminal monetary penalties for violations of wetland regulatory laws to cover the costs of regulatory programs, including research efforts to support them, would provide a significant source of funding for wetland protection programs. Where this is allowable under state or provincial law, this type of program should be established.

These types of rules place the burden and expense of particular tasks essential to the permit process on the applicant rather than the regulatory agency. Such "burden shifting" devices--substantive, procedural, and financial--should be employed in wetland regulatory programs when appropriate. For example, the burden of establishing an effective mitigation plan, and the costs of carrying out the plan, should be the responsibility of the applicant.

The standards for permit evaluation set out below place the burden of proof on the applicant to demonstrate that proposed wetland activities will insofar as possible avoid adverse effects to wetland functions and values.

Recommendation 28

Wetland regulatory programs should consist of permitting standards that first avoid and then minimize wetland impacts, and require compensation for unavoidable impacts. These standards should be applied consistently Basin-wide.

Government at all levels should adopt permitting standards which require avoidance of adverse impacts on wetland resources wherever possible. A scheme for avoidance should first evaluate whether or not an activity is wetland dependent. A wetland dependent activity should be defined as one that cannot physically function without direct access to or location within the wetland where it is proposed, regardless of economic considerations. Permits should not be issued unless the applicant can demonstrate the following by clear and convincing evidence:

1) for a wetland dependent use or activity, the applicant should demonstrate that the project has no practicable alternative which would either:
    a) avoid wetland impacts altogether, or
    b) have lesser wetland impacts.
2) for a non-wetland dependent use or activity, the applicant should demonstrate that:
    a) there is a compelling public need for the activity that cannot be met by essentially similar projects in the region; or
    b) that denial of the permit would impose an extraordinary hardship on the applicant brought about by circumstances peculiar to the property at issue; and
    c) that there are no practicable alternatives that would either (a) avoid wetland impacts altogether or (b) have lesser wetland impacts.

The definition of practicable alternatives should clarify (a) that a practicable alternative may include areas not owned by the applicant that could have been or can be obtained, used, expanded or managed for the basic project purpose and (b) the fact that an alternative may be more costly to the applicant does not make it impracticable.

If an applicant can demonstrate the conditions necessary for a wetland dependent or non-wetland dependent activity, a permit may be granted if, in addition, the applicant can show:

3) that the adverse effects of the activity have been minimized to the greatest degree possible;
4) that the activity will not destroy the habitat of any state, provincial, or federal threatened or endangered species, or species of concern;
5) that the activity will not cause or contribute to a violation of state water quality standards or other federal, state, provincial, and local laws or regulations pertaining to water quality or water pollution control;
6) that the alteration would have no significant impact on wetland or related resource values, either individually or cumulatively;

7) **that compensation for unavoidable wetland loss has been provided that will demonstrably result in an increase in wetland acreage and functions unavoidably lost, as called for in the Consortium's recommended mitigation policy found below (Because of the difficulty in restoring and re-creating wetland values, greater than equal replacement of acreage and function is necessary to ensure that no loss results.);**
8) **that the activity is in the public interest. In determining whether a proposed regulated activity in any wetland is in the public interest, the agency administering the program should consider the following:**
    a) The extent of the public need for the proposed activity;
    b) The extent and permanence of the beneficial or detrimental effects that the proposed regulated activity will have on the public and private uses for which the property is suited;
    c) The quality of the wetland that may be affected and the amount of wetland to be disturbed;
    d) The economic value of the proposed regulated activity to the general area;
    e) The ecological value of the wetland and probable impact on public health and safety, fish, plants, and wildlife.

Any proposed mitigation plan must meet the following requirements:

1) Mitigation plans shall be allowed only as compensation for unavoidable losses, only in cases where the applicant has no practicable alternatives to the proposal, and only when the proposed activity satisfies the other permitting standards recommended above;
2) Mitigation shall not be allowed without a comprehensive plan for the implementation of the wetland replacement project over a five to ten year period, including evaluation criteria for determining if the project is successful at creating and maintaining a viable wetland. These criteria shall be specified in the permit conditions, and shall be enforced by contract and by performance bonds to ensure the completion and success of the project;
3) Preference should be given in mitigation plans to the restoration of the same wetland type within the same hydrologic system as that to be altered. In cases where particular wetland types have been heavily impacted, consideration should be given to plans that restore regionally endangered or rare wetland types or functions;
4) Mitigation must result in an increase of wetland acreage, and a demonstrable increase in the specific functions and values provided by the wetland to be altered; and
5) Donation, preservation, or "improvement" of existing wetlands is not acceptable alone as mitigation for the loss of a specific wetland, because the result is a net loss of wetland acreage and possible of function as well.

Recommendation 29

Wetland regulatory programs must apply to public and private entities alike.

It is inappropriate to exempt public agencies from environmental regulatory laws. In New York state, for example, state agencies are not subject to the same environmental regulations as are private entities. Everyone, government and private citizens alike, should be subject to the same environmental protection laws and standards. Indeed, all government agencies should set an example and be the leaders in environmental and wetlands protection.

Recommendation 30

Wetland regulations must contain enforcement provisions that deter violations, and enforcement must be adequately funded and effectively exercised.

Many wetland conversions go undetected by governmental authorities. Even if they are detected, no regulatory agency has the resources to address all violations.

Until recently, enforcement was a low priority among wetland regulatory agencies at all government levels. Indeed, even when enforcement actions have been taken in the past, the cost to the violator was often considered merely a "cost of doing business" and thus did not serve as an effective deterrent to future violations, even to that violator, let alone others.

The Consortium calls for effective enforcement by all local, state and provincial, and federal wetland regulatory agencies to induce those subject to legal obligations to fulfill those obligations completely, in a timely manner, and at the lowest possible cost to government. To promote compliance, government must create a reasonable expectation that fulfillment of legal obligations will be less costly than failure to do so. To create that expectation, government must accomplish four essential tasks. It must:

1) **educate** the public and the regulated community to the importance of its mission and the requirements of the law;
2) effectively **detect** those who violate those requirements;
3) **penalize** violators so that the cost of noncompliance is substantially greater than the cost of compliance; and
4) effectively **publicize** the consequences of noncompliance to induce others to comply.

Although all of these elements are critical to an effective enforcement program, in the end, an enforcement action must cost a violator more than voluntary compliance would have. Costs of violation come from the imposition of penalties that exceed the economic benefit enjoyed from the violation. Legislative authorizations for penalties must therefore be large enough to allow agencies to impose these costs. Regulatory agencies in turn must pursue penalties that more than eliminate the economic benefit enjoyed by noncompliance, and the judicial process must apply such penalties.

The Consortium therefore recommends that levels of government:

1) adopt civil penalties equal to the economic benefit enjoyed by a violator due to noncompliance, plus a penalty in addition, so that noncompliance with wetland regulatory laws costs a violator more than compliance;
2) adopt penalties, where appropriate, that are adequate to deter criminal violations, including criminal fines, for knowing violation of those requirements, and jailterms for repeated offenses;
3) authorize wetland restoration as a remedy for violation of wetland regulatory requirements;
4) adopt effective enforcement strategies for the detection of violators, and the widespread communication of the consequences of violation of wetland regulatory requirements; and
5) provide sufficient funding and personnel to enforcement programs to ensure the attainment of these goals.

The Consortium also recommends that penalties and fines collected from wetland regulatory enforcement actions be channelled by legislative or regulatory bodies to wetland protection efforts rather than into general government funds that may be appropriated to other governmental uses.

In addition to standard enforcement procedures, government can impose additional costs for illegal wetland activities. Adverse publicity is potentially a creative enforcement tool. In addition, criminal fines and imprisonment are increasingly being levied against individuals for deliberate noncompliance with wetland permitting requirements. An effective enforcement program uses a mix of enforcement options to deter unlawful behavior. The Consortium recommends that all regulatory authorities make maximum use of creative enforcement tools wherever appropriate, such as:

1) Permit Bars.

A "permit bar" is a prohibition against granting a permit or future permits. It can be applied to permit programs for any activity regulated by a particular governmental body. Permit bars are applied because of past violations of environmental laws, and restrict the issuance of a permit sought by the applicant. For instance, the state of Pennsylvania has extremely broad authority to deny environmental permits under the following provision of the Solid Waste Management Act, Act 97 of 1980:

> In carrying out the provision of this act, the department may deny, suspend, modify, or revoke any permit or license if it finds that the applicant, permittee or licensee has failed or continues to fail to comply with any provision of [the Clean Streams Laws, the Air Pollution Control Act, and the Dam Safety and Encroachments Act] or any other state or Federal statute relating to environmental protection or to the protection of the public health, safety and welfare; or any rule or regulation of the department; or any order of the department; or any condition of any permit or license issued by the department; or if the department finds that the applicant, permittee or licensee has shown a lack of ability or intention to comply with any provision of this act or of any of the acts referred to in this subsection or any rule or regulation of the department or order of the department, or any condition of any permit or license issued by the department as indicated by past or continuing violations. In the case of a corporate applicant, permittee or licensee the department may deny the issuance of a license or permit if it finds that a principal of the corporation was a principal of another corporation which committed past violations of this act.

Obviously such bars can be used to protect wetlands and other environmentally sensitive areas. Indeed, the Pennsylvania provision quoted above mentions that State's wetlands regulatory statute, the Dam Safety and Encroachments Act (32 P.S. Secs. 693.1-693.27), among those acts for which a permit may be denied if its provisions were or are being violated. The effect of this permit bar is to encourage compliance with all environmental regulatory requirements by anyone who seeks an environmental permit of any kind in the future.

While many consider such bars to be enforcement tools, they are also economic disincentives to illegal wetlands alterations because they can deprive a person of future business opportunities if they do not obey the requirements of the wetlands laws. In order to fully serve that purpose, permits should be barred until illegally altered wetlands are restored to their prior condition.

2) Contractor Bars.

The U.S. Environmental Protection Agency, pursuant to U.S. federal law and regulation, has the authority to "list" the recipients of federal grants, loans and contracts, and their subcontracts, as ineligible for any government financial assistance whenever that recipient is found to have violated an administrative order issued by the agency. In may also bar contracts if the recipient is subject to a civil suit or in other specified circumstances, until the violation is corrected or for one year, whichever period is shorter. If the violation is not corrected after one year, the federal government must initiate another listing procedure, which gives the recipient the opportunity for a hearing.

States or provinces and local governments may adopt similar provisions and can make them even more effective by making a person ineligible for government financial assistance until the violation is corrected, with no time limit that would require government to go through another listing procedure after one year.

For those who are dependent on government financial assistance, such as state or local contracts or government business loans for their livelihood, such provisions can be effective economic disincentives to unpermitted wetlands alterations, if they are used frequently and consistently.

3) Land Transfer Bars

State, provincial, or local governments should consider developing laws similar to New Jersey's law prohibiting the sale or transfer of land containing a hazardous waste site for use in the wetlands protection area. Such a law could prohibit the sale or transfer of land until the state or local regulatory agency certifies that no wetland areas identified on wetland maps pursuant to a comprehensive state wetland plan or other delineation/identification method adopted for regulatory purposes, had been filled, drained or otherwise degraded after the effective regulatory date, except pursuant to and in compliance with a state/local permit, and the required compensation had been accomplished or secured.

Any unpermitted alterations would have to be restored prior to transfer. "Innocent landowners," --those who own wetland areas that had been illegally altered by a prior owner without the current owner's knowledge--could void sales of land with unpermitted alterations or sue the prior landowner for multiple the damages incurred due to the restoration requirement and losses resulting from any delay in transfer caused by the restoration requirement.

The effect of such a law would be to force those engaged in the sale and transfer of property to scrutinize wetland regulatory laws, maps, and delineations and to investigate the activities of the owner before entering into sale or transfer agreements. This in turn would have the effect of forcing property owners to restore altered wetlands or simply to preserve them so as to be able to sell their land.

C.2) RECOMMENDATIONS FOR LOCAL REGULATORY PROGRAMS IN THE UNITED STATES ....

Recommendation 31

Local units of government should adopt wetland protection ordinances or modify existing ordinances to provide protection offered by the model ordinance developed by the Consortium.

Local protection of wetlands in the Great Lakes Basin is necessary to meet the goal of an increase in the quality and quantity of the region's wetlands. The Consortium supports the adoption of wetland protection ordinances by local and county governments on the U.S. side of the Basin. A Model Ordinance that meets the requirements for regulatory programs described in section C(1) above (Recommendations 23 through 30) is included in Appendix A.

In addition to adopting wetland ordinances, local and county governments should protect wetlands through other existing regulations. For example, local governments across the Basin regulate public health and sanitation through sanitary or health codes. Usually, these local health codes are authorized by state law, and their primary purpose is to regulate on-site sewage disposal, i.e. septic tanks and drainfields.

The Consortium recommends that sanitary codes include provisions that prevent the placement of septic systems in wetlands. A variety of types of systems can meet the requirements of some sanitary codes even if the area in question is a wetland. Typically, these systems do not function as effectively as systems on uplands and can lead to degradation of water quality as well as the destruction of the wetland.

Further, septic systems should be sited at least 100 feet from a wetland to prevent wetland degradation from septic effluent, particularly harsh chemicals. Most sanitary codes do not contain any wetland setback provisions and should be amended to include these.

C.3) RECOMMENDATIONS FOR STATE REGULATORY PROGRAMS ....

Recommendation 32

All states in the Great Lakes Basin should adopt comprehensive wetland regulatory programs.

The Consortium recommends that all states in the Great Lakes Basin adopt regulatory programs that are consistent with section C1 above (Recommendations 23 through 30). The Consortium conducted a review of existing state programs, and the results of this survey are presented in Appendix C. The accompanying text identifies the areas where each program is currently insufficient.

Recommendation 33

All states in the Great Lakes Basin should use the Water Quality Certification provisions under Section 401 of the Clean Water Act (33 U.S.C. 1341) for wetland protection.

Section 401 (33 U.S.C. Section 1341) of the U.S. Federal Clean Water Act (CWA) authorizes the states to deny or condition water quality certification for any applicant for a federal license or permit (and arguably any other federal action which amounts to an "approval") to conduct any activity which may result in a discharge to waters of the United States (including even small, isolated wetlands that may be used in interstate commerce).

Unfortunately, this extremely powerful tool has been ignored by many states, even though it could be an effective device for preventing destruction of wetlands that fall under Federal jurisdiction. The use of section 401 for protecting wetland resources is especially critical in Great Lakes states that have not yet adopted comprehensive wetland regulatory programs. For instance, Ohio has legislation that protects its shorelines, but does not cover inland wetlands. However, it has been active in protecting wetlands that are subject to the section 401 water quality certification. Although section 401 is not a substitute for comprehensive state regulatory programs, it can be used immediately by all Great Lakes states to stop destruction of wetlands subject to federal permitting requirements.

Each state in the Great Lakes Region should adopt regulations implementing its authority to grant, deny, or condition water quality certification that will provide the maximum protection to the state's wetland resources. Appropriate regulations would include the following standards:

1) states should ensure that their water quality standards define wetlands as part of the waters of the state;
2) state water quality standards should articulate insofar as possible hydrological, biological, physical and chemical standards that take account of the fact that wetlands frequently have features quite different from open waters;
3) 401 regulations should require applicants for all federal projects requiring a license or permit that may result in a discharge to obtain state water quality certification (Examples include projects which require permits under the wetland protection or water quality certification provisions of the Clean Water Act, the wetland protection section of the Rivers and Harbors Act (33 U.S.C. Sec. 10), and Federal Energy Regulatory Commission hydropower licenses.);
4) 401 regulations should set clear and effective standards for water quality certification and clearly place the burden on the applicant to demonstrate that the proposed activity will comply with all water quality standards applicable to state waters and wetlands, including antidegradation provisions;
5) states should fully implement an outstanding waters designation program, classifying their largest, most valuable, most threatened and/or most unique wetlands as outstanding state waters and providing them maximum protection under the standards; and
6) if a state determines to grant water quality certification, it should condition that grant on strict compliance not only with water quality standards, but all state law and regulatory provisions that bear on water quality or wetland protection in any way (in addition to federal requirements).

The states should exercise the water quality certification authority not only over individual permits or licenses authorized by federal agencies, but also for Corps of Engineers' various general permits, which the Corps promulgates on a nationwide, regional or state basis.

Nationwide permits may remain in effect for only 5 years, after which they must be reissued with notice and an opportunity for states to exercise their water quality certification authority. If nationwide permits are reissued at any time prior to the 5 year period, they are also subject to the state water quality certification requirement. States may either grant certification with appropriate conditions, or deny certification of these permits.

If a state has denied certification of a general permit, any person proposing to do work under such a permit must first obtain State water quality certification. If a state has conditioned the grant of certification on some requirement of state review, such conditions must be satisfied before work can commence under a general permit.

States in the Great Lakes Region should be aware that even though the Corps' nationwide permits do not require repromulgation until 1991, other approaches to reasserting their authority under section 401 where certification was granted in 1986 may be available.

The Commonwealth of Virginia, for instance, has determined that until it adopts a legislative program for the regulation of non-tidal wetlands, it will concentrate protection efforts on the 401 water quality certification requirement. As a first step, it has convinced the Corps of Engineers, Norfolk District, which covers the state of Virginia, to promulgate a public notice that proposes to add a regional condition to nationwide permit number 26 in Virginia, which would require individual water quality certification for all activities proposed under that permit. In effect, the state of Virginia has convinced the Corps to allow it to withdraw its prior water quality certification for nationwide permit number 26 prior to the required 5 year repromulgation requirement.

Wisconsin is proposing water quality standards for wetlands. The standards are based upon functional values of wetlands. Standards are applicable to all Wisconsin Department of Natural Resources regulatory, planning, resource management, liason and financial aid determinations which may impact wetlands. This rule will be applied in concert with the state water quality certification requirements of the Federal Clean Water Act.

States in the Great Lakes Region that are having similar problems with wetland destruction allowed by this or other nationwide permits should examine this option with the relevant Corps districts in their states.

C.4) RECOMMENDATIONS FOR THE U.S. FEDERAL PROGRAM ....

Recommendation 34

The Consortium recommends that the current regulatory definition of waters of the United States at 33 C.F.R. 328.3(a) be changed to presume that all waters and wetlands are susceptible to use in interstate commerce.

Congress has clearly stated in the legislative history of the Clean Water Act that the interpretation of the term navigable waters (defined as "waters of the United States"), should "be given the broadest possible constitutional interpretation." Congress has authority to regulate interstate commerce and, according to the Supreme Court, that authority extends beyond direct instruments of interstate commerce and persons or things in commerce, to activities simply "affecting" commerce. Thus, when Congress elects to regulate activities that substantially affect interstate commerce, as it has done under the Clean Water Act, the Supreme Court has made clear that even purely intrastate activities fall within the federal power.

Currently, a case by case determination of a wetland's value for interstate commerce is necessary for Section 404 of the Clean Water Act to apply. Regulatory staff routinely make this determination by determining whether migratory birds use a particular wetland for feeding, nesting, etc. Requiring this determination on a case by case basis is not only a waste of federal resources, preventing effective and efficient implementation of a national regulatory program for wetlands protection, but is also clearly contrary to the intent of Congress to exercise its Commerce Clause authority under the Act to the fullest extent possible. Interstate commerce can include a wide variety of other values, such as fisheries, timber production, recreation, etc. This longstanding inadequacy in the federal program should be corrected.

Recommendation 35

The Nationwide Permit Program should be substantially revised to control ongoing cumulative wetland losses.

The Corps of Engineers' general permit program has not been kind to wetlands. The Corps has issued nationwide permits (NWP's), for instance, that do not meet statutory requirements (such permits must be for activities "similar in nature" and with "only minimal adverse environmental effects when performed separately, and . . . only minimal cumulative adverse effect on the environment"), and has applied a number of such permits in ways that seem clearly to violate the Congressional intent.

For instance, nationwide permit number 26 (NWP 26) authorizes the piecemeal destruction of some of the most delicate of our wetland resources by permitting any and all activities (not just those similar in nature) in wetlands above the headwaters of rivers and streams, and in isolated wetlands, of 10 acres or less.

Moreover, for many of the nationwide permits, the Corps does not even require a predischarge notice. Thus, it has no way of knowing whether an activity permitted under any particular nationwide permit has more than a minimal adverse effect, either separately or cumulatively. Indeed, the Corps does not even know when or where such permitted activities take place.

Even when it does, however, it is clear that the general permit system, which includes nationwide, regional, and state permits, is not working the way Congress intended. The Corps has authorized and encouraged the combination of two or more general permits in one project, nullifying the acreage limitations of any particular general permit. The Army Corps' Regulatory Guidance Letter 88-6 states:

> "It is entirely appropriate to combine two or more nationwide permits to authorize an activity . . . . Likewise, a project that involves a fill resulting in up to one acre of impacts above the headwaters as well as a minor road crossing fill, is authorized under a combination of NWPs 26 and 14 without the requirement of a predischarge notification. In other words, the acreage limitations of NWP 26 do not include the acreage that may be impacted by other nationwide permit authorizations which may be part of the same project."

The Corps has never proven that any wetland loss, much less the 10 acres allowed under NWP 26, has no individual or cumulative impact. The impact that is allowable under the nationwide permit program is even greater when the 10 acre limit is expanded by the application of an additional nationwide permit to a particular project.

The Consortium recommends a revision of the Corps general permit program in at least the following areas:

1) the elimination of nationwide general permit No. 26;
2) withdrawal of any general permit for which the Corps cannot show that its use would have only minimal adverse effects on the environment;
3) require the use of all general permits to be preceded by a written application, available to 404 resource agen-

cies and the public, describing the activity, its location, and the area to be affected, both directly and indirectly, by the activity, and require the Corps to maintain information on any wetland alterations permitted thereby on a state, regional or nationwide basis (depending on the geographic limits of the permit) in a complete and standardized fashion;

4) require an individual permit application for any generally permitted activity which may result in more than a minimal adverse effect, singly or cumulatively;
5) assume that alterations larger than a specific acreage (1/4 acre) will have more than minimal adverse effects;
6) prohibit using multiple general permits to avoid the acreage limitations of other general or individual permit requirements; and
7) require compensation in accordance with the Consortium's mitigation policy recommendations for any losses incurred as a result of activities generally permitted.

These recommendations should be heeded by states and local governments as well. The Corps has stated publicly that more wetland losses are attributable to its nationwide permit program than to individual or "standard" permits. New Jersey's experience under its recently adopted freshwater wetlands law has been similar. It is counterproductive at best for government to commit resources to individual permit reviews while the resource is being lost to the "efficiency" of general permits.

C.5) RECOMMENDATIONS FOR WETLAND REGULATORY PROGRAMS IN CANADA

Unlike the United States, Canada has not taken a regulatory approach to wetlands at either the local, provincial or federal level. Rather, wetland protection is addressed through land use planning and miscellaneous legislation and regulation through which protection may occur by inference, chance or default.

Although there are numerous statutes and regulations which have some relevance and applicability, there is not one that specifically deals with wetland protection. At the present time, there is not one general wetland policy or statement of intent which provides a wetland directive for these existing mechanisms. A federal wetland policy and a provincial wetland policy for Ontario are currently under development. Clearly, a statement of wetland protection goals and objectives is urgently needed to focus existing statutes, regulations and programs.

In Canada, both the federal and provincial governments have jurisdiction over wetland related issues. Federal involvement focuses on matters concerning migratory birds, national parks, navigation and shipping, and to some extent fisheries. The federal government has been involved in some wetland conflicts and undertakes a variety of wetland research projects. Provincial jurisdiction in respect of wetlands is much more extensive. Direct jurisdiction over property rights, land use development, and the management of natural resources and public land resides with the province. For this section, the Consortium has focused its review and recommendations on the provincial government, specifically the Province of Ontario.

Recommendation 36

The draft Ontario Wetlands Planning Policy Statement must be substantially revised and implemented to provide effective protection for wetlands.

In 1989, the Ontario Ministers of Municipal Affairs and Natural Resources issued a proposed policy statement pursuant to Section 3 of the Ontario Planning Act of 1983 (S.O., 1983, c.1). The Consortium believes that the policy statement and its accompanying implementation guidelines will fail to protect Ontario's wetlands.

Local municipalities are not required to comply with the policy. The policy authorizes municipalities, planning boards and agencies to consider wetlands in their planning process but it is not mandated. The planning process must be mandatory to insure that wetlands are, in fact, considered by local governments throughout Ontario.

There are other deficiencies in the proposed policy. Particularly, it does not address wetland loss caused by grading, draining and filling of wetlands on agricultural land. Given that agricultural land drainage is the most significant threat to wetlands in Ontario, it should be addressed. The policy also does not apply to wetlands smaller than two hectares and wetlands in northern Ontario are virtually ignored.

Currently, the policy places undue crediblility on the Wetland Evaluation System. It has been demonstrated that the existing methodology for classifying wetlands under the Wetland Evaluation System does not adequately reflect the true wetland values of many sites. Because of the flaws in the Wetland Evaluation System, the closely associated policy is servely weakened. The Consortium recommends modification of the Wetland Evaluation System and removing any direct reference to the classification scores and evaluation results from the proposed policy statement and implementation guidelines.

While a policy statement which encourages wetland planning is a constructive first step toward a comprehensive provincial wetland protection program, this proposed policy must be strengthened by making the planning process mandatory.

Recommendation 37

All existing statutes and regulations that provide for the protection of wetlands must be used and enforced.

A number of existing statues and regulations in Ontario could exercise control over wetland conversion. In the past, these have not been widely or effectively used to regulate activities which may directly or indirectly impact wetlands. For example:

1) a regulation under Section 27(1) of the Conservation Authorities Act (R.S.O. 1980, c.85) requires that any undertaking proposing to restrict or regulate the water, change or divert the existing channel, build a pond for irrigation, construct any building or structure or place fill of any kind within the fill and flood lines requires a permit from the Conservation Authority. Many Authorities have not mapped and registered their fill and flood lines.
2) Section 14 of the Lakes and Rivers Improvement Act (R.S.O. 1980, c.229) states that "no person shall construct a dam on any lake or river" until the location, plan and specifications thereof have been approved by the Ministry of Natural Resources. In this case, "dam" means a dam or other work forwarding, holding back or diverting water. Few permit applications are denied.
3) Section 13a of the Public Lands Act (R.S.O. 1980, c.413) states that no person shall dredge or fill any shore lands without a work permit. Shore lands are defined as areas that are seasonally inundated with water by an adjoining body of navigable water. The permit application and review process is not well defined.
4) The Federal Fisheries Act (R.S.C., 1970, c.F-14), which is enforced by the Province of Ontario, has the potential to provide strong protection of wetlands. Two key sections (Section 35(1) and Section 36(3)) refer specifically to violations as a result of the harmful alteration, disruption or destruction of fish habitat and the deposition of deleterious material in waters frequented by fish. Enforcement of this powerful piece of legislation as it relates to wetlands and fisheries has been limited in the past but is increasing.

The Consortium recommends a coordinated regulatory scheme that uses these provisions and others to control activities that destroy or alter wetlands. This should include consideration of wetlands in the permit application and review process.

Recommendation 38

Local governments should adopt specific wetland protection strategies through zoning bylaws and official plan designation.

The Consortium recommends a mandatory zoning scheme directed by provincial legislation and implemented at the local level. Once the provincial policy is approved, local governments must be required to incorporate wetland protection into local plans. This will include amendments to the official plan and passing zoning bylaws to protect wetlands. They should also be required to use all available planning tools such as the official plan, and site plan controls to prohibit development in provincially significant wetlands and permit only compatible uses within wetlands whether they are provincially significant or not. The provincial government should assist local governments by developing the criteria to assess compatible uses and setting minimum standards and definitions.

Recommendation 39

The Ontario government must immediately develop effective wetland protection legislation and expedite its implementation.

The Consortium recommends that the provincial government begin developing specific statutory protection for wetlands. This legislation must apply to all wetlands and prohibit the destruction or degradation of significant wetlands or any part thereof. As well, it must provide for restoration and rehabilitation of wetlands that have been destroyed or degraded.

Recommendation 40

The Ontario government must undergo a full review of the municipal land use planning and review process to ensure that it provides adequate protection for wetlands.

The existing land use planning and review process is simply not adequate to protect wetlands. In particular, the lack of mandatory adherence to policy statements issued under the Planning Act means that there is not guaranteed protection of wetlands. The only requirement is that wetlands be considered.

The Consortium is concerned that the procedures for amending official plans and approving individual projects does not ensure effective consideration of ecosystem protection goals, nor the evaluation of the long-term, synergistic or cumulative impacts of certain undertakings. The procedures place serious timing and financial burdens on the local agencies commenting on plan reviews and private interests participating in the planning process. In many instances it also demands a level of expertise that simply does not exist. It is unacceptable that the land use planning and review process allows wetlands to be cleared, graded, altered and destroyed well before planning approval is sought or obtained.

The Environmental Assessment Advisory Committee recently concluded in Report No. 38 on the Ganaraska Watershed that " the existing land use planning and review process in Ontario is inadequate to the task of maintaining social and ecological quality in the face of development pressures" (p.37). The Consortium concurs with this conclusion and urges the provincial government to immediately begin a review of the municipal land use planning and review process.

D. ENDING GOVERNMENT FUNDING OF WETLAND DESTRUCTION

Wetland regulatory programs are currently undermined by government financial support of activities that result in wetland destruction. Instead of funding the very activities that they are attempting to regulate, governments at all levels must take a close look at the financial support they provide and modify funding programs to avoid causing wetland loss.

Recommendation 41

Government agencies should make subsidizing private activities that degrade or destroy wetlands contingent upon an assurance that the recipient has minimized wetland loss resulting from the funded activity.

Government agencies should be required to review all grants, loans, contracts, and other government financial assistance to determine their effect on wetland resources. Some current legislation requires reviews of the environmental impacts of public funding for private activities. The U.S. Federal National Environmental Policy Act (33 U.S.C. Sections 4321-4370a), the Canadian Environmental Assessment Review Process, and many state environmental protection acts and the Ontario Environmental Assessment Act require government agencies to consider less environmentally damaging alternatives to major government actions significantly affecting the environment. Many government financed activities escape review, however, because they are not considered major or significant. Even then, if the essential procedural steps of these laws are followed, the actual decision to proceed with a project is often not subject to challenge by the public.

If government is to stop funding activities that destroy wetlands, it must first determine which of its assistance programs contribute to that destruction. One way to accomplish this objective is to require that every application for a government loan, grant, contract, or other form of financial assistance, must be reviewed for compliance with the permitting standards outlined above, including public interest tests and alternatives analyses.

Likewise, applicants for government financial assistance should be required to reveal to granting agencies any loss of wetland values or function resulting from government funded activities and to certify that alternatives not involving wetland loss have been considered as outlined under Recommendation 28. Recipients who breach that certification should be required to refund the assistance, with interest. Such requirements will force applicants for government assistance to tailor their projects to minimize wetland involvement or forego government aid.

Government subsidies for wetland loss are a major and continuing problem in Canada. Government agencies in Canada provide incentives for drainage of wetlands for agricultural activities. Both the federal and provincial governments have provided financial incentives for agricultural land drainage, which accounts for 85% of the wetland losses in southern Ontario (south of the Precambrian shield). Federal subsidies for drainage works have been available at various times, most recently in eastern Ontario in support of regional development through the Eastern Ontario Subsidiary Agreement. By providing one third subsidy (over and above the provincial one third subsidy), this incentive directly and significantly promoted wetland loss through increased agricultural land drainage activity. Fortunately, the federal government did not renew this agreement when it expired.

The provincial government, however, continues to subsidize wetland destruction through funding assistance provided for agricultural land drainage. Under the provincial Tile Drainage Act (R.S.O., 1980, c.85), assistance is available for on-farm drainage through low-cost loans to eligible operators. The Province issues debentures to local municipalities to cover the loan's value. The real problem, however, lies with the provincial Drainage Act, which regulates procedures for the construction and maintenance of outlet drainage works. Under the Act, the Province provides direct support to farmers in the form of a one third subsidy (grant) of their assessed costs for the project.

It has been clearly demonstrated that the availability of government subsidies for agricultural drainage has significantly influenced the amount of outlet drain construction activity in Ontario, and consequently the amount of wetland loss. For example, approximately 500 to 700 drains have been constructed annually in Ontario. During the time when the federal involvement raised the amount of available subsidy to two-thirds of the assessed costs of the project, the annual construction of drains peaked at about 1200.

These government subsidies for agricultural land drainage should not be available where this incentive results in the destruction of wetlands. The Ministry of Agriculture and Food should ensure that grants under The Drainage Act are not paid to assist in the drainage or destruction of wetlands. In addition, all projects funded under the Drainage Act should be subject to a cost/benefit analysis.

In Ontario, adequate provision for environmental assessment of drainage projects as they may impact on wetlands simply does not exist. All activities of the Ministry of Agriculture and Food, including the support of agricultural drainage activities, are exempt from the provisions of the Environmental Assessment Act. The Drainage Act allows for "environmental appraisals" and benefit cost statements, but does not provide guidelines for either type of study. More importantly, the party requesting the study must bear the full costs. In other words, the onus is on the opponent of the project to request and pay for consideration of environmental factors. As a result, only a few of the hundreds of drainage projects undertaken annually have had "environmental assessments". Changes must be made in the drainage application and review process to ensure that the direct and cumulative impacts of agricultural drainage do not result in the loss of wetland acreage or function.

Recommendation 42

Programs such as the Coastal Barrier Resources Act or Swampbuster that attempt to limit government funding of activities destructive to wetlands and coastal resources should be extended and revised.

1) Federal programs in Canada

The Canadian federal government is currently drafting a policy on wetland conservation which has the potential to control federal funding of activities that impact wetlands. One of the proposed policy strategies indicates that the federal government will develop practices in support of wetland conservation and sustainable development to be incorporated in the design and implementation of federal programs and in the management of federal lands and waters. It has been suggested that this will be achieved in part by establishing a goal of no net loss of wetland functions on federal lands or waters, or as a result of the implementation of federal programs, in those areas of Canada where the continuing loss or degradation of wetlands has reached critical levels, or where wetlands are important ecologically or socio-economically to that region.

The Consortium recommends that the Canadian federal government immediately identify all government incentive programs which influence or impact wetlands, and assess the effects of these programs on wetland conservation. There is a clear opportunity through this draft policy for the federal government to demonstrate its commitment to wetlands conservation and stop funding activities that negatively impact wetlands in the Great Lakes Basin.

2) Federal programs in the United States

The U.S. federal government has begun to curtail some federal funding of activities that result in wetland loss. There are two programs representing a salutary first step in the right direction, the Coastal Barrier Resources Act (16 U.S.C. Sections 3501-3510 and amendments) and the Swampbuster provisions of the 1985 Food Security Act (16 U.S.C. Sections 3821-3823 and amendments). These programs, however, function in a piecemeal fashion and are not currently comprehensive enough to completely stem government funding of wetland destruction and degradation. These programs should be expanded and revised if they are to accomplish their purpose.

a) The Coastal Barrier Resources Act.

The Coastal Barrier Resources Act (CBRA) prohibits federal funding of activities, such as the construction of roads, bridges, sewers, waterlines and housing, and federal subsidies for flood insurance in designated areas of the Atlantic and Gulf Coasts. Among the many revisions recommended to further CBRA's goals, the Consortium most urgently recommends that the areas of Great Lakes identified in the Interior Department's 1988 draft maps be included within the system.

The coastal barriers along the Great Lakes deserve and need the Act's protection just as much as the Atlantic and Gulf coast barriers. Government funding of development activities in Great Lakes nearshore waters and wetlands has ramifications beyond wetland destruction. The Great Lakes shoreline is subject to extreme and unpredictable fluctuations in lake levels and to storm surges and seiches which make development there both dangerous and expensive. And, although record high lake levels in 1985-1986 may have resulted in as much as $500 million in property damage, some shoreline areas that were flooded then are again undergoing development.

It is neither sensible nor equitable for the federal government to support development in the Great Lakes shorelines while withholding support on the Atlantic and Gulf coast barriers. By providing financial incentives to development in the Great Lakes shoreline area, the federal government undermines state coastal and wetland protection programs, and spends millions of dollars on inevitably destructive or destruction prone activities that could be used for preservation purposes.

An equally essential revision to CBRA is the inclusion of all "associated aquatic habitats," including adjacent wetlands, marshes, estuaries, inlets, and nearshore waters, in the funding prohibitions of CBRA. Without the additional inclusion of the Great Lakes shorelines' associated aquatic habitats, much of which is coastal wetlands, the fish and wildlife resources which the Act seeks to protect will still be at risk.

The federal government also needs to expand this approach to cover non-coastal wetlands. The goal of increasing the quality and quantity of the wetlands in the Basin cannot be reached unless all wetlands are protected from federally subsidized development. An effective program should be established that prohibits this funding unless an overriding public interest need is being served, and no alternatives that avoid wetland impact are available.

b) The Swampbuster Provisions.

The Swampbuster Provisions of the 1985 Food Security Act were aimed at stemming the conversion of wetlands to agriculture, which has accounted for some 87% of wetland loss between the mid-1950s to mid-1970s. However, Swampbuster has had only limited success to date at preventing conversion. Indeed, the results of only a partial survey by the Department of Agriculture's Soil Conservation Service show that over 77,000 acres have been converted in violation of Swampbuster, even given its exemptions and the incomplete nature of the survey (which may represent only 25% of covered wetlands).

The 1990 U.S. Farm Bill contains significant modifications to Swampbuster that should increase its effectiveness. Most importantly, the violation that triggers a denial of farm program benefits has been changed. Originally, a violation only took place when a producer harvested a commodity crop from a converted wetland. Under the revised program, the initial destruction of the wetland for agricultural purposes will be the violation. This change will increase the likelihood that farmers will preserve wetlands rather than risk losing farm program benefits.

In addition, the U.S. Fish and Wildlife Service (USFWS) has been given a somewhat expanded role in technical determinations related to the program. The program exempts producers if the effect of production of a commodity crop on the wetland is "minimal". The USFWS will now have a concurrence role locally in determining what effects are minimal. If local decisions are appealed to the state and/or federal level, USFWS role will be a consulting one, the same as it is now. In addition, the Service will play a role in determining if restoration efforts were adequate.

Despite these positive changes, however, there are two major problems that will continue to reduce the effectiveness of Swampbuster. One is that the current regulations and procedures implementing Swampbuster do not provide for third party participation in a number of areas that are critical to the success of the program. The other is that recent amendments allow "one-to-one mitigation" in some situations, exempting farmers who restore an acre of wetland for each acre drained. The Consortium recommends that these shortcomings be addressed in following revisions to Swampbuster when it is next reauthorized.

Swampbuster should be amended to provide for third party review and appeal of eligibility determinations and other pertinent administrative decisions. Although the 1990 reauthorization made a positive change by improving the oversight of Swampbuster administration. With the amendment, appeals handled by the Agricultural Stabilization and Conservation Service (ASCS) must be reported to state and national offices, which makes the records more accessible to the public. Nevertheless, further reforms are necessary to increase accountability under the program.

The Consortium has targeted three aspects of Swampbuster that must be reformed to ensure adequate third party review and appeal. First, there are no standard procedures for the investigation of swampbuster violations reported from outside the agency. Thus, if the Fish and Wildlife Service, or another third party, such as a conservation organization or a neighboring producer, reports a violation, there is no way for these parties to seek review of a determination that there was no violation. Second, there is no absolute right for a third party to be heard at a violation hearing, even if that party was the source of the violation complaint. Third, the current appeal regulations provide that only the producer may appeal a determination of ineligibility. Thus, even if the proceeding originated as the result of a third party complaint, that party has no right to appeal if the producer prevails. A producer may appeal an ineligibility determination several times through the administrative process, with the result that over 77% of all ASCS appeals have been decided in favor of producers.

The other main concern with Swampbuster as a result of the recent amendments may have the potential to weaken wetland protection. The amendments allow one-to-one "mitigation" in some situations, exempting farmers who restore and acre of wetland for each drained acre. Although this modification may diffuse some resistance to the law and actually improve implementation, due to the high potential for abuse and the imperfect nature of wetland creation, regulatory activities must be monitored closely. Because human attempts to create functioning wetlands are often unsuccessful, it is widely acknowledged that rules for mitigation under a no-net-loss policy should require compensation for wetland losses on a greater than acre-per-acre ratio. Thus, during the next round of revision, this aspect of Swampbuster must be modified.

Recommendation 43

State and Provincial governments should develop new programs to restrict governmental funding for public activities that destroy or degrade wetlands.

There is a wide range of public activities undertaken by state and provincial governments which can potentially result in large wetland losses. The goal of increasing the quality and quantity of the Basin's wetlands cannot be achieved unless current losses are controlled. Governments cannot expect individuals to accept restrictions on the use of privately owned wetlands unless those governments adopt programs to control the losses caused by their own activities.

State and provincial programs should be adopted that follow the general outlines of the U.S. federal Coastal Barrier Resources Act discussed above. These new programs should apply to all state and provincial funding of activities that affect wetlands, including highway development, public marina or refuge of harbor construction, and drainage projects.

In some instances, the public benefit to be gained from these activities may outweigh the benefit from wetland preservation. Public funding for these projects should not be provided, however, unless a rigorous alternatives analysis shows that the public benefits of the project cannot be achieved without wetland loss.

E. EXPANDING RESTORATION EFFORTS

An increase in the quantity and quality of Great Lakes wetland resources can be accomplished through restoration of previously filled, drained or polluted wetlands, and through the creation of wetlands in appropriate places. To successfully increase the acreage and function of our wetlands, restoration efforts must imitate the hydrology, water quality, and biota of comparable natural wetlands. This can be accomplished by careful planning, siting, and timing of restoration and creation projects, and by taking advantage of the many existing policies and programs throughout the Great Lakes Basin which encourage wetland restoration and creation.

Recommendation 44

Opportunities for wetlands restoration in the Great Lakes Basin should be aggressively pursued and carried out so as to recreate lost wetland functions and values.

The Consortium's vision of a net increase in the quantity and quality of our wetland resources can only be realized through restoration of previously filled or drained wetlands, and through the creation of wetlands in appropriate locations. In order to offset past losses of natural wetlands, former wetlands can be restored to their original condition, and wetlands can be created in upland areas in some situations. These restoration and creation projects must seek to replace not only the acreage of wetlands lost in the past, but also the functions of those wetlands, such as wildlife habitat, water quality protection, and flood storage.

Successful wetland restorations and creations require careful planning and site selection, as well as adequate financial and logistical support. Regions in the Great Lakes which have lost a majority of their wetlands, particularly the urban areas, should receive highest priority for wetland restoration projects.

Many existing policies and programs offer opportunities for wetland protection, restoration, and creation, such as the Remedial Action Planning Program to clean up polluted areas in the Great Lakes, mitigation required by Section 404 of the U.S. Federal Clean Water Act, dredge and spoil disposal programs, Superfund Clean-up sites, the North American Waterfowl Plan, and programs of Ducks Unlimited Canada. These programs provide incentives, in the form of funding, expertise, and/or development rights, to public and private entities for the restoration and creation of wetlands.

The science of wetland restoration is in its infancy. Past restoration attempts often have been unable to mimic the hydrology of particular wetland types, and without the correct hydrology, the wetland often cannot perform the functions of a natural wetland. These functions, and the wetlands that produce them, are not static features of the landscape, but are the result of dynamic ecological processes, such as water movement and plant life cycles. Therefore, restoration projects must reproduce those processes in order to create or restore a functioning wetland. Because different kinds of wetlands often have different functions, wetland restoration and creation projects must mimic a certain wetland type. To re-create the functions of this wetland type, the site chosen for the restoration must be capable of supporting the hydrological and biological characteristics of the desired wetland type.

The text that follows outlines six major steps that should be followed to ensure that restoration and creation projects are successful.

1) **Identify a source of financial, logistical and political support for the wetland restoration/creation project. Take advantage of existing programs and procedures which provide opportunities for wetland restoration and creation.**

   Several categories of potential support exist for different kinds of projects, some of which are available to either the public or the private sector, or both. Wetland restoration and creation efforts should take advantage of the existing programs and procedures described in the following sections.

   a) Wildlife habitat creation: The U.S. Fish and Wildlife Service, Ducks Unlimited Canada, the North American Waterfowl Management Plan, Wildlife Habitat Canada, and many other organizations and programs are involved in wetland restoration for the purposes of wildlife production. Some of the programs and organizations which fall under this category are drained agricultural land restoration projects such as the Conservation Reserve Program (CRP), which applies to farmers with CRP land and drained wetlands or people who own drained wetland and live near a wildlife refuge. Other programs provide financial assistance and technical support for community based volunteer habitat projects by associations of naturalists, hunters, or anglers.

b) Reservoir creation: Although the goal of reservoir creation is not to create wetlands from uplands, where reservoirs must be constructed, efforts must be made to insure that quality wetland habitats are created to offset the wetlands that may be destroyed downstream of the reservoir. Wetland creation is often desirable to stabilize the shoreline of the reservoir and prevent sedimentation. Reservoirs are also created in the Great Lakes Basin as a result of cranberry farming, power production cooling ponds and other water diversion activities, and should include wetland creation whenever possible.

c) Flood control and stormwater management: Increasing urbanization has created the need for careful routing and management of floodwater, and wetlands are recognized more often now as a means of storing and slowing flood water and desynchronizing flood peaks. Toward these ends, large wetland complexes have been restored along several U.S. rivers under the Army Corps of Engineers, the USFWS, and state natural resource agencies. Similarly, the need to protect surface water quality from urban runoff has resulted in stormwater detention pond construction in many city parks. These ponds have the potential to become small wetlands or to be integrated into large wetland restoration/creation complexes. Wetland excavation to accommodate artificially increased stormwater flows should be avoided.

d) Aesthetic enhancement: Increasingly, private contractors are incorporating wetlands and open spaces other than lawns into their development design in response to the need to provide stormwater detention areas, mitigation requirements, and the public's desire for natural areas near their living area. If not located too closely to the development, these wetland restorations can function as wildlife habitat in addition to aesthetic enhancement and stormwater detention. Similarly, many local, state and provincial parks are seeking to restore and create wetlands as part of aesthetic enhancement programs.

e) Mining reclamation: Mining operations must be required to rehabilitate the landscape after they have completed operations. In some cases, mining may create sites which are appropriate for wetlands. Careful site evaluation will indicate what kind of wetland the site will support, if any, and the steps that need to be taken to tailor the site. The Minehaha Wildlife Area in Indiana, constructed by a coal company and leased to the state, is an example of successful mining reclamation involving created wetlands.

f) Shoreline stabilization: Lakeshore and riverfront homeowners often need to protect their property against destructive wave and current action that removes sediment from the shoreline. These landowners often turn to expensive rock or cement walls or rip-rap, which is unattractive, expensive, and provides no ecological value. In some situations, a gradually sloping shore and/or deepwater area planted with appropriate wetland species would protect the property against erosion, and the ability of the plants to trap sediments may even re-establish eroded shoreline, while maintaining a beach area for recreation.

g) Dredge spoil disposal: Dredging of harbors and marinas often yields large quantities of sediments, the disposal of which can be a serious problem. However, if the sediments are uncontaminated they can be used, as the U.S. Army Corps of Engineers has done, to create offshore islands or other wetland areas in deep water. These islands not only replace lost wetland habitat, but, if properly placed, may protect the shoreline from erosion as well.

h) Pollution abatement: Programs such as the Remedial Action Program and Superfund seek to clean up specific sites in the Great Lakes Basin; when those sites are in naturally wet places, these programs benefit by replacing the contaminated sediments with wetland soils, and creating a wetland. These wetlands would serve to improve the water quality of these polluted areas.

i) Mitigation: Many wetland protection statutes require wetland filling to be mitigated by the creation or restoration of wetlands. Many transportation departments as well as private industrial, commercial and residential developers are faced with the need to replace wetlands they have destroyed; slowly, many of these groups are developing a restoration technology that results in good wetland areas, but little evidence exists to demonstrate that these restored wetlands fully replace the functions lost when natural wetlands are destroyed.

2) **Prioritize sites for wetland restoration/creation on the basis of past losses and need for wetlands in the area, so that heavily urbanized areas with poor water quality and a majority of wetland areas filled, drained or disturbed receive high priority.**

Because of extensive industrialization and development, accompanied by the loss of wetlands, many urban areas in the Great Lakes Basin have poor water quality and very little open space for recreation, aesthetics and wildlife habitat. Particular areas with this problem include Green Bay, Wisconsin; Toronto, Ontario; Detroit, Michigan, and the entire south end of Lake Michigan. Several of these have also been targeted for clean-up under the Remedial Action Plan (RAP) Program. Many of these areas once supported large lake coastal wetlands and riparian wetlands; restoration of these areas would result in large improve-

ments in water quality, and fish and wildlife habitat in the Great Lakes. Because they are near the Lakes, and because of past wetland losses and current water quality problems, these areas should be targeted for wetland restoration.

3) **Investigate the hydrology, geology, biology and past history of the restoration/creation project site prior to any action, to determine the wetland type which is appropriate for that site.**

Each of the many different wetland types has certain physical and biological characteristics. These same characteristics, such as location in the watershed, water depth, water sources, plants, etc., control the functions of the wetland. If the goal of the wetland is to replace a certain type of wetland with certain functions, the site chosen for the restoration must be capable of imitating the physical and biological characteristics of the desired wetland type. Similarly, if the goal of the restoration/creation is to restore/create a wetland at a specific site already chosen, the wetland type chosen must match the site.

Preliminary investigation of a site should include:

- A profile of the sediments and the geology
- Depth to water table
- Drainage area
- A general idea of the sources of water input and output
- Distance to nearest permanent body of water
- Elevation
- Average slope
- Plant survey at the site and in any wetlands nearby
- Preliminary assessment of wetland functions

Much of this information can be found or calculated with good maps and some field work. Once this information is obtained, consultation with wetland experts should indicate the wetland type that is most appropriate for that site; if the site is not appropriate for the desired wetland type, a new site should be investigated.

4) **Plan the restoration/creation project based on a standard set by a natural "reference" wetland of the same type chosen for the project site.**

Once the desired wetland type has been identified, the information listed above should be obtained at a natural example of that wetland type that is used as a "reference" wetland. When the restoration/creation is part of a mitigation requirement, the "reference" wetland should be the wetland that is to be destroyed, and all this information should be collected prior to destruction.

Based on this preliminary analysis, the restoration team should outline specific objectives for the project. A comparison of the characteristics listed above for the site to be restored to the same characteristics for the "reference" wetland will indicate what must be done to modify the restoration site so that it has the same characteristics as the reference wetland. These modifications should become part of the listed objectives of the restoration. These objectives should also identify wetland functions that are the focus of the project, such as wildlife habitat, water quality improvement, etc. Ideally, the investigation of the reference wetland will include a baseline functional assessment, so that the restorationists will know what kinds of functions the restored wetland should perform.

5) **Use best current methods at the restoration/creation site to imitate the slopes, soils, hydrology and vegetation of the natural wetland standard.**

The objectives of the restoration/creation project, as determined above, are the basis of the project plan. Once an appropriate site has been chosen, the plan shows how the site will be modified to reproduce the characteristics of the "reference" wetland. Techniques which may be included are:

- Importing appropriate clay liners, peat or other substrate if needed.
- Excavating and grading the project site to produce the depth to water table, slope, and contours that match the "reference" site. Hired contractors must be capable of very painstaking work, since a six-inch difference in elevation can have a significant effect; all construction must avoid compaction of the soil, since this greatly alters water-retention capabilities.
- Constructing water control devices, if needed, to produce the correct water level dynamics throughout the season.
- Timing construction so that wetland soils are not exposed when pest species, such as purple loosestrife, are going to seed.
- Establishing appropriate vegetation through the use of seeds, rootstock or marsh sod/mulch (from natural wetland of desired type which is to be destroyed). All plantings should be native to the area and

free of exotic or pest species, and any seeds, rootstock or sod used should be collected in an ecologically non-disruptive manner or raised in nurseries by reputable growers.

Supervising construction and planting by an experienced wetland ecologist.

6) Evaluate the restored/created wetland against the "reference" wetland immediately after completion and two years later, and take necessary steps to correct any problems. Set up a long-term monitoring program and identify management needs to insure that the wetland functions like a natural wetland; set aside funds for management and monitoring.

Past wetland restoration/creation projects have suffered from a lack of monitoring and management of the project site. By comparing the restored wetland to the "reference" wetland immediately after completion, problems such as incorrect slope and incorrect water level dynamics may be corrected before the plants die and are replaced by tenacious undesired species. This evaluation will also indicate the success of the different restoration techniques used. Finally, a functional assessment will further indicate how similar the restored wetland's functions are to the "reference" wetland; if the restored wetland is not performing as desired, corrective action may be required. Any corrective actions that will need to be repeated regularly in order to maintain the desired wetland functions will be categorized as "management needs"; once these needs have been identified, some management funds can be set aside.

Similar evaluations, two, five, ten and twenty years later, will indicate if the wetland functions of the restored area are functioning correctly, and will help to evaluate the success of the management program.

F. IMPROVING MANAGEMENT AND RESEARCH

The Consortium's goal of an increase in wetland quality and quantity cannot be met without careful management. To enhance the quality of existing Great Lakes wetlands, the functions of each wetland site must be identified, and management efforts must support those functions.

F.1) MANAGEMENT NEEDS

Recommendation 45

Wetland management programs should seek to eliminate abusive disturbances which prevent wetlands from performing their natural functions, and must preserve and enhance critical wetland functions.

To maintain the functions that wetlands perform, wetland management programs should attempt to identify the functions of each wetland site, and allow only alterations to the site that will enhance those functions. This requires an inventory of functions performed by each wetland, and a program which manages both the wetland and the surrounding watershed to create a healthy environment.

The quality of many existing wetlands has decreased in the last century, largely as a result of human impacts. Even those few remaining wetlands which do not show any effects of human impacts are vulnerable to direct or indirect effects of human activities. Consequently, wetlands must be actively managed to counter these impacts and allow the wetland to function as effectively as possible. These impacts will be both direct, originating in the wetland itself, and indirect, originating in the surrounding watershed or even outside of the watershed, such as atmospheric deposition. Effective, functionally-oriented management requires an inventory of wetland functions and of the direct and indirect impacts that threaten those functions. Deciding if a wetland needs management, and if so how it should be carried out, will depend not only on the impacts that threaten the wetland and its watershed but also on the functions that the wetland performs. In many situations, the best management plan is "hands off."

Different wetlands perform different functions, and physical manipulation of wetlands may have both negative and positive effects on these functions. Therefore, wetland managers must know the range of functions that specific wetlands perform. Management decisions often must choose among different options which maximize one function over another; for example, a dense growth of wetland plants may improve water quality but may not leave enough open water to provide optimal conditions for certain wildlife. In this case, the physical size and location of the wetland and the condition of the watershed may influence the manager's decision; are waterfowl likely to use this wetland, or is the water quality in the area so poor that the water purification function becomes more important?

Once the functions of the wetland have been studied and inventoried, managers can then address the problems that threaten the wetland. Some of these problems, such as trampling, off-road vehicle use, or exotic species invasion, may be addressed by physical manipulation of the wetland site itself. Unfortunately, information on how to solve many of these on-site management problems is often inaccessible to wetland owners and managers. A database listing management problems and solutions would greatly facilitate the work of wetland managers.

Wetland management is further complicated by problems that originate elsewhere in the watershed. These off-site problems are much more difficult, if not impossible, for wetland managers and owners to solve themselves; these include increased runoff and sedimentation and decreased groundwater flow. These indirect threats to wetland quality must be addressed by changes in regulations and incentives, and through programs such as the North American Waterfowl Management Plan and non-point source pollution abatement programs. Management of the total watershed as well as the wetland itself will lead to healthy wetlands and a healthy environment.

Finally, improving wetland quality through on-site and off-site management requires adequate funding. Small wetland owners should have access to the expertise and funding required for wetland management. Large wetland owners, including land trusts and government agencies, must have funding for on-going management and maintenance costs. These costs must be taken into account in any plans for wetland acquisition.

F.2) RESEARCH PRIORITIES

Recommendation 46

Research efforts should focus on applied problems at the ecosystem/watershed level, so that wetlands can be effectively protected, managed, restored, and created.

Maintaining high-quality wetlands and increasing wetland resources through restoration and creation, requires a proficient understanding of how wetlands interact with the surrounding lands. Many people, including city planners, highway departments, natural resource agencies, and wetland owners need to know what functions are performed by a certain wetland, so that they know how to maintain those functions. Most of the research on wetland functions, particularly assessment of them, has originated not only in the universities and other educational institutions, but also in the many government agencies and some non-governmental organizations which need information about wetlands and the watershed for their work. These research groups--agencies, universities and private groups--must work to better understand how wetlands modify the movement of water, pollutants and wildlife in the watershed.

Research efforts must address two main questions. First, what determines the different functions that a wetland performs in the landscape, and second, how do human activities alter these functions? Many factors, such as slope, distance from rivers or lakes, geology, rainfall, and adjacent land use determine how a wetland functions. These factors are not well understood for all the wetland functions in all types of wetlands. Without a comprehensive understanding of how these factors determine wetland functions, it is difficult to predict the impacts of human activities on wetland functions. Researchers who study wetlands in the Great Lakes Basin recently identified several factors whose influence on wetland functions is not understood. The following list of research priorities includes many of their recommendations.

1) **Investigate the effect of water level fluctuations/wetland hydrology on wetland functions.**

   The pattern of water flow in a wetland at different times and in different places in the wetland has a very large effect on all wetland functions, particularly species diversity and productivity. In some coastal wetlands, natural fluctuation of water levels is critical to maintain certain uncommon plant species; in other types of wetlands, controlled drawdown of water levels is necessary to maintain waterfowl habitat. Researchers need to focus on the effects of different patterns of water level fluctuation in different wetland types; this would require calculation of a water budget and modelling of water flow patterns in the watershed. Researchers also need to identify the mechanisms by which those different water level patterns are produced in nature, so that these patterns may be re-created or restored to improve the functioning of an existing wetland or to create an artificial wetland with certain functions. Understanding these factors would allow wetland managers to better predict the effects of water level stabilization on various wetland functions.

2) **Investigate the effect of wetlands on water quality in the watershed, and effect of water quality on lake productivity.**

   Water level fluctuations, topography and other factors determine how long water will remain in a wetland, how pollutants will be removed, and what plants and animals are produced there. These factors in turn determine the quality of water that leaves the wetland and goes into drinking water supplies, lakes and rivers. In wetlands that adjoin lakes, the quality of the water and the production of invertebrate and plant biomass has a critical effect on fish and wildlife productivity of the whole lake. Exactly how different wetland types affect lake productivity and general water quality in the watershed as a whole is not understood. Field measurement and computer modelling of these factors may reveal the importance of different types of wetlands in different locations to lake productivity and water quality.

3) **Identify "threshold" stress levels for each function, and of indicators of those stress levels.**

   Every wetland has a set of functions which it will perform unless disturbed by alterations to its own system or to the surrounding watershed. Just as a population of animals or plants can sustain a certain level of harvesting without long-term effects, so the wetland can remove a certain amount of sediments or toxics in a certain period of time without impairing its other functions and without impairing its future ability to remove these pollutants. Beyond a certain level of pollutants or other stress from disturbance, however, the wetland will cease to function the same way it used to. This stress level, called the threshold, will be different for different functions and for different types of wetlands. Knowing how much sediment load or how much water level increase a wetland can take before it ceases to provide waterfowl habitat or flood storage is critical both for land use planning and for wetland management.

Certain indicators, such as invertebrate species which are sensitive to water quality, or plant species which require certain water levels, may show that the stress level has been exceeded; the problem may then be addressed before its effects are irreversible. Identifying these threshold levels and their bioindicators will require experimental manipulation in the lab and in the field, as well as computer modelling of the wetland system.

4) **Inventory and classify wetland functions and wetlands at risk, assessed on a watershed-wide basis.**

A database indicating the types of functions performed by individual wetlands and groups of wetlands in a watershed, and the threats to those functions posed by human activities, would be an extremely useful tool for land use planners, land managers, and other decision-makers. Interconnected wetlands should be assessed as a unit because a particular function of one wetland in a chain is not independent of this function in adjacent wetlands. System-wide functional assessments would also permit better evaluation of cumulative impacts of human disturbances. All wetland functions, including socially-based functions such as aesthetics and recreation, should be assessed in this manner and included in the database.

This inventory of wetland functions could be incorporated into existing natural heritage type databases. The process of measuring these wetland functions should emphasize endangered species and rare community types, which are currently the focus of Natural Heritage Program databases.

These databases would also include assessment of the risks posed to each wetland. As explained earlier, wetlands, like any living system, have a threshold limit of disturbance, beyond which they cannot function. In the process of evaluating the functions of wetlands in a watershed, researchers should attempt to monitor the actual and potential impacts to that wetland from incoming toxic pollution, sediment deposition, exotic species invasion, adjacent development, noise, stream channelization, and drainage for agriculture. The result will be a description and mapping of "wetlands at risk".

5) **Conduct policy analysis of wetland protection/destruction mechanisms.**

Planning for wetland protection is severely hampered by lack of data on the effectiveness of different legislative, regulatory and tax incentive mechanisms. Similarly, very little information exists about wetland losses which occur under different governmental programs. Such data would help direct advocacy efforts to the wetland protection programs which show the most potential for achieving the Consortium's goals.

6) **Public and landowner attitudes towards wetlands and land stewardship.**

Any attempt to maintain or increase wetland resources will require an improvement in the public's awareness of wetland values, and in the care landowners give to their land. Many landowners are unaware of the effect of their action on wetlands and on the watershed as a whole; in addition, many people are unable to recognize the signals which indicate that an ecosystem like a wetland is being degraded. The Consortium recommends that increased sociological research be undertaken to identify the factors which determine public attitudes toward wetlands. In addition, such research may be useful in indicating the kinds of land management programs people support, and the kinds in which they would participate. Identification of the important factors behind perception and stewardship of wetlands would enable private and public groups to design more effective educational programs.

G. SUPPORTING ACQUISITION PROGRAMS

Regulatory programs alone cannot protect and enhance existing natural wetlands areas, let alone increase the quality and quantity of Great Lakes wetlands. Many violations are not detected and some wetlands are so critical to the health of the Great Lakes ecosystem that we cannot afford for them to be destroyed, degraded, or improperly managed. Thus, effective acquisition and management programs are necessary to assure permanent protection and reach the Consortium's goal of an increase in the quality and quantity of wetland resources in the Great Lakes Basin.

Recommendation 47

Programs that secure permanent protection of wetland ecosystems in the Great Lakes region through acquiring wetlands in fee, by conservation easement, purchase of development rights, or private acquisition by other means should be expanded.

Government agencies should be authorized to acquire and manage wetlands in accordance with comprehensive land use or wetland plans, watershed preservation plans, or other like planning devices, that require priority acquisition of wetland areas.

1) **Mechanisms.** A variety of mechanisms should be employed, as appropriate, to preserve wetlands in perpetuity.
   a) **Acquisition of Fee Title**
   State, provincial, and local units of government should develop acquisition programs for key wetland areas identified through their inventory and planning process. Acquisition in fee and unrestricted right to the property will allow resource managers to prepare and implement management plans to protect and enhance the most critical wetland areas. Tax laws and other incentives to donate wetlands to government agencies and/or non-profit organizations should be utilized to their fullest potential.
   b) **Acquisition of Easements and Restricted Interest**
   Acquisition of fee title is not always possible or desirable. In some cases, acquisition of a limited property right is more feasible. Easements that limit the rights of the underlying fee land owner are a way to achieve wetland protection short of acquiring fee title. Easements can be drawn to prohibit or permit various kinds of activity on the land. They can be for a limited time (i.e. 20-99 years) or perpetual (to run with the land forever). The states and provinces of the Great Lakes should develop uniform easement procedures for wetlands of the Great Lakes.
   c) **Transfer of Development Rights**
   Government units that control land use decisions should consider the transfer of development rights on wetlands to other property as a wetland protection strategy. Transfer of development rights, in exchange for permanent wetland protection, allows the owner of wetlands to realize a financial return for not altering wetland resources.

2) **Funding.** Long term funding devices must be provided for acquisition programs. Examples of such devices include waterfowl stamp programs; tax check-offs; fees for access to public parks, refuges and other protected areas; hunting and fishing license fees; or other sources, for the acquisition of wetland property rights by government agencies. Other sources of funding include the following:
   a) **Real Estate Transfer Fees**
   Assessing a special fee on all real estate transfers is an effective means for raising funds for wetland acquisition. Much of the real estate transfer occurs in developing areas where wetland protection is most urgent. Thus, this kind of fee falls most heavily on those whose activity may be most threatening to wetlands.
   b) **User Fees**
   Surcharges on outdoor recreation licenses, fees, and taxes could be utilized as a source of funding. Examples may include hunting and fishing licenses, taxes on the sale of outdoor recreation licenses, "stamp" programs, etc.
   c) **General Appropriations**
   Wetland protection is in the general public interest for water quality, flood control, health, and other reasons. Thus, governments ought to consider general fund appropriations (from operating funds or bonds) to fund permanent wetland protection. An example is the Reinvest in Minnesota program, where the state is using bond proceeds to "buy back" marginal farmland and recreate the land's natural resource values.
   d) **The National Estuarine Research Reserve Program**
   One wetland acquisition and research program that could be more fully utilized in the Great Lakes is the National Oceanic and Atmospheric Administration's National Estuarine Research Reserve Program (NERR). This program provides shared funding for acquisition of estuarine systems along U.S. coastal waters. There is currently only one in the Great Lakes region, the Old Woman Creek NERR in Huron, Ohio. The Consortium supports the addition of a second research reserve in the upper Great Lakes. In addition to protection of a specific estuarine system, the program provides ongoing support for research that would contribute toward a greater understanding of the functions and values of Great Lakes coastal wetlands.

The history of wetlands has gone through two stages. In stage one, drainage and conversion of these "wastelands" was encouraged. In stage two, conversion was acceptable and thus tolerated--perhaps under regulation and perhaps not. Stage three, in light of the knowledge we have gained, must be the era of protection, management and re-creation of wetlands. Just as public money supported stages one and two through grants and incentives, so too must public money support stage three through permanent acquisition of wetlands if we are to secure a wetlands resource base and a healthy ecosystem for the future.

H. EXTENDING EDUCATIONAL OUTREACH

Wetlands are complex biophysical units. There is an increasing body of scientific literature identifying the importance wetlands in their natural state in providing specific benefits to society. These functions include water storage and purification, sediment retention, and nutrient recycling, as well as the provision of increased biomass energy, biological diversity and fish and wildlife habitat. Various governmental agencies and other organizations increasingly recognize the value of these functions to society for wildlife and nature conservation, active and passive recreation, commercial plant and animal production, extraction, risk reduction, research and education, and aesthetics or landscape diversity, among others.

These complex systems which are constantly under threat of modification or destruction are critical to a wide range of interests in society. They are, however, poorly understood by the vast majority of the population. The Consortium feels that unless proper education and communication exists about these ecosystems, creative legislation and lobby group efforts will fall short of their mark because both the public and legislators will not be supportive of preservation efforts.

The Consortium believes that a properly structured program of effective communication and access to information can be designed and implemented using the guidance provided in this section.

Recommendation 48

Government at all levels, and non-governmental organizations, should increase public education about wetlands values and protection programs.

All levels of government (local, county, municipal, state or provincial, and federal) should work to change public perceptions of wetlands and include them in jurisdictional definitions. Using their own resources or those of non-governmental organizations, they should communicate to and educate the general public, decision-makers, and landowners about the following major topics:

1) Existing knowledge and information about the functions and values of wetlands.
2) Existing wetland policies, including legislation and regulatory guidelines and frameworks.
3) Opportunities for involvement in the process for planning, regulation and management of wetland resources. (Clearinghouse, Speakers Bureau, Government/Non-Government Policy Forums).
4) Coordination and incentive options to achieve wetlands conservation.
5) Effective restoration, protection and management techniques for wetland resources.

The overall goal of increased communication is to assure informed decision making that positively affects wetland resources.

Recommendation 49

Government at all levels should improve public access to decision making.

To achieve effective communication and education, all levels of government should involve NGOs and the public in the following:

1) **Determination of issues of concern affecting wetlands.**
A wide variety of issues must be considered as part of a societal imperative to maintain, restore, and enhance wetlands. Examples of these issues include: aesthetics, recreation, wildlife habitat, water quality and supply, green/open space, and educational opportunities.

2) **Development of plans and regulations affecting wetland uses.**
Management, restoration, securement (acquisition and other forms of protection), and especially any development that reduces existing wetlands values and productivity, should be based on plans reviewed by the affected communities. Uncontrolled development, based on profit rather than on sound environmental planning, is not in the public interest. Citizens deserve a say in how their environment is manipulated, and whether its functional values are being maintained.

3) **Implementation of plans/regulations through zoning, dedication or other controls in use.**
The public needs to be able to review information about the needs for, process of, and probable results of these actions.

4) **Educating school children and other students, the future decision-making public.**
If governments hope to have support for their actions to protect wetlands, they must not only work with today's decision makers, but cultivate the citizens of tomorrow, providing them with opportunities to experience the benefits of wetlands today.

5) **Creating and operating wetlands conservation and restoration demonstration projects.**
This is a role largely available to government, and perhaps to some NGOs, or corporations with extensive resources. Cooperation between such governmental and non-governmental groups would be very beneficial to creating credible education and demonstration projects.

6) **Communicating the results of research and restoration projects to the public.**
This will make people and organizations more capable of supporting future projects, and applying these concepts themselves. Informing the public of opportunities for involvement allows them to commit to support government projects and programs, as well as to participate in them.

7) **Facilitating communication and interchange between academia, government agencies, and the public.**
No one knows better than the public what they need to know, and in what form, to make better decisions about wetlands. By listening to NGOs and public representatives, academics and government researchers and bureaucrats may be better able to communicate with people, and meet their resource and information needs.

Recommendation 50

Non-governmental organizations in the Great Lakes Basin should make wetland protection a priority by developing and presenting educational programs on wetlands, participating in decision-making, planning and regulatory processes, and undertaking stewardship, securement, restoration, and management of wetlands.

Non-governmental organizations in the Great Lakes Basin should:

1) Develop and use communication and dissemination techniques and opportunities to achieve these goals;
2) Participate wherever possible in decision making, planning, and regulatory processes, particularly as active participants during permit reviews;
3) Undertake stewardship, securement, restoration, and management of wetlands, wherever opportunities and resources permit this involvement.

The following is a list of proposed mechanisms for public outreach and a description of each. Appendix B lists high quality examples of these products.

1) **"800" Hotline:** A toll-free phone number which citizens, developers, and/or local government officials could call for information about wetland values, solutions to wetland problems such as purple loosestrife, existing policy, regulations, and incentive programs, education or media tools or human resources on wetlands, the status of wetlands policy and legislation, or to report apparent wetland regulation/law violations. The phone line could be staffed during office hours, to provide immediate response, or the service could provide call-back response (like National Audubon's Acid Rain Monitor or the Ontario Federation of Anglers and Hunters "Report a Poacher") after the appropriate authorities had been contacted or referenced.
2) **Billboards:** Public service messages to protect, manage wisely, or just notice and value wetlands could be placed on billboards, at transit stops, or on rapid transit lines in both urban and rural areas. Pithy, memorable quotes could convey messages like "Wetlands -- They're Too Precious to Waste," Environmentally Safe (Wildlife) Housing in Your Community", "Wetlands -- Lifestyles for the Wet and Famous", or "Wetlands are Not Wastelands".
3) **Bumper Stickers:** (or buttons, iron-on T-shirt decals, sun shields for cars, balloons, etc.) These could convey similar pithy, quickly read, memorable ideas about wetlands conservation, to sensitize a broad spectrum of the public to issues, concerns, and remedies. The Audubon "Clean Air" bumper sticker or the Ontario Ministry of Natural Resources "Wetlands: Nature's Best Kept Secret" are good examples.
4) **Demonstration Projects:** The U.S. Fish & Wildlife Service and the Farmer's Home Administration are converting suitable foreclosed farmlands to wetlands by removing and blocking drain tiles and providing for wetland maintenance by title restrictions and easements. Municipalities, the Ontario Ministry of the Environment, the US Forest Service, and private resorts are experimenting with artificial wetlands for tertiary sanitary waste treatment. Landscape architects and urban planners incorporate wetlands into city as well as rural spaces used by people. All provide opportunities for interpretation and promotion of wetlands, their values and functions, and demonstrations of sustainable use such as trapping or viewing for pleasure.
5) **Manual for Local Government Officials:** Many local officials, elected or appointed, are unaware of laws, policies, regulations, plans, programs, authorities, references, or incentives covering wetlands use and management. A handbook should highlight appropriate existing guidelines for wetlands management, restoration, or development. Such a guide would have to be either very general, and refer to specific state/provincial or federal authorities, or be written specifically for each locality.

6) **Newsletter:** Newsletters share information between people or groups with similar interests (in this case, wetlands). Publication of such newsletters for the interested public could carry the latest research findings conducted or supported by government, suggestions for the public to implement these findings for more and better wetlands in their communities, and notices of impending proposals to impact, restore, or enhance wetlands, as well as appeals for voluntary cooperation and assistance in these projects. They could also provide camera ready art for reuse by NGO's.
7) **Publications:** Many government and non-government agencies publish informational brochures to assist their constituency. Coordination between such agencies would provide consistent messages which could be directed to a specific program or problem. (See examples, from US FWS, US ACOE, and US EPA.) Other useful publications augment the School Program/Education focus, by describing wetlands, their characteristics, values, and wildlife, or providing tools for local people to monitor and evaluate their wetland resources. A Water Quality Monitoring book is provided by the Commonwealth of Kentucky to its Water Watchers. How to Cope With the Corps addresses issues from the non-government organization point of view. Governments might be able to use it as well. In Ontario there are such publications as the Ontario Breeding Bird Newsletter and the Natural Heritage League's Private Stewardship Newsletter.
8) **Radio and Television Public Service Announcements:** Audio, audio with background visuals, and video public service announcements can be produced relatively inexpensively, even with professional production and presentation. Such public service announcements can then be provided to radio or television stations and networks for use as they see fit, or corporate sponsors can be obtained to help air them during prime time or just off peak time.
9) **School Programs:** Instructional and informational materials that augment various curricula have proven attractive and helpful to educators, particularly in grades K-12/13. Programs that provide complete educational materials and clear implementation strategies have been well received by teachers and school systems. Audubon Adventures, Living Lightly (on the Planet) (in the City), and Project Mayfly provide some examples of the fine materials available. More extensive curricula, which include educator training, may best be exemplified by Project WILD, Project Learning Tree (PLT), and the Iowa Natural Heritage program. In Ontario such programs as We Otter Save Wetlands, a puppet show, or the Federation of Ontario Naturalist's Why Wetlands? school and camp series are available. (See Appendix B for information on educational programs.)
10) **Programs for Hunters and Anglers:** Government conservation agencies have long relied on users of the resources they manage and protect to support their efforts (through license, stamp, and access fees). Garnering expanded support for wetlands acquisition, dedication, restoration, and management, even for uses not traditionally associated with hunting, fishing and trapping, requires continued and frequent contact and information exchange with these traditional supporters of wetlands. It is also important to include organizations that have not traditionally been associated with wetland protection, such as Garden Clubs or associations of butterfly, herptile, wildflower, bird, and spider enthusiasts.
11) **Television and Video:** Governments can go beyond the brief messages of Public Service Announcements by producing or supporting longer programs on wetlands. These can range from segments on somewhat traditional outdoors shows (typically shown on weekends) to full documentaries on wetland values, problems, and remedial projects. There are lots of opportunities for corporate/governmental/non-governmental cooperation on the production of such adaptable and reusable information tools. Examples include "Wetlands in Crisis," "Restoring Wetlands on Your Property," Indiana DNR's "Value of Our Hoosier Wetlands," and Audubon's "Ducks Under Siege" and "Crane River." Canadian examples include the Federation of Ontario Naturalist's "Why Wetlands", Ducks Unlimited Canada "Wetlands" and joint U.S./Can. North American Waterfowl Management Plan videos.
12) **Workshops:** Both government agencies and non-governmental organizations can conduct workshops (possibly together) to educate the public, local officials, developers, or wetlands activists about programs to protect wetlands. The focus of a workshop can vary from "this is what you are allowed to do" (for officials and developers), to "this is what you ought to do" (for the same people, farmers and local NGOs), to "this is how you can become involved" (for everyone). The purpose is both information and technology transfer for better application of existing knowledge, and empowerment of local citizens.

In order to be able to make the best use, and achieve the maximum impact from the above recommendations, the following target groups were identified:

1) **Decision Makers**
   - officials, bureaucrats, agency/board/commission staff
   - state and federal legislators
   - public servants, who manage or impact wetlands

  - private wetland managers, especially farmers and industry representatives
  - developers (private and public)
  - the voting and purchasing public

2) **Educators**
   - teachers, trainers, regulators, and extension specialists
3) **Students**
   - of all ages from Kindergarten through graduate school but especially children, the voters and man agers of the future
4) **The General Public**
   - individuals and the NGOs in which they associate and cooperate
5) **Government Agencies** - through direction and funding from legislative bodies
   - Authorities
   - Commissions
   - Boards, Councils
6) **Private Developers**
7) **Individuals** - both land owners and managers, and those interested in their management
8) **Non-Governmental Organizations** - including members of this Consortium.

IV. CONCLUSION

Historically, European settlers to the Great Lakes region associated wetlands with negative images. More recently, the numerous values and functions that wetlands provide to the stability, productivity, and integrity of the Great Lakes ecosystem have been realized. This realization has brought about many positive efforts on behalf of individuals and organizations to preserve and protect our remaining wetlands. The Consortium was formed to encourage these efforts by providing proactive recommendations to protect and enhance wetlands. The recommendations above address issues as diverse and complex as improving regional coordination and planning, increasing incentives, strengthening regulatory programs, ending government funding of wetland destruction, expanding restoration efforts, improving management and research, supporting acquisition programs, and extending educational outreach. The Action Agenda and the appendices that follow provide important background information and specific steps to facilitate the implementation of these recommendations.

Although the focus of this document is on wetlands policy and what various organizations and institutions should do, we must realize that institutions and organizations are simply collections of individuals. As such, they are moved by individual action. Those of us who realize the importance of wetlands in the Great Lakes basin have many opportunities for action. We hope that the findings of the Great Lakes Wetland Policy Consortium provide direction and support for those willing to take the initiative to work towards the goal of increasing the quality and quantity of Great Lakes wetlands.

V. A GREAT LAKES WETLANDS ACTION AGENDA

The organizations who participated in the Great Lakes Wetland Policy Consortium are currently involved in wetland protection efforts and are committed to increasing the quantity and quality of wetlands in the Great Lakes Basin. In an effort to ensure the implementation of the Consortium's recommendations, the Consortium members have developed an Action Agenda. This Action Agenda lists specific steps to initiate accomplishing the selected recommendations, and the organizations that are currently, or will take a lead role. These steps provide impetus and direction for wetlands protection in the Great Lakes Basin.

A) IMPROVING REGIONAL COORDINATION AND PLANNING

Recommendation 1

The agencies and organizations responsible for implementing the Great Lakes Water Quality Agreement (GLWQA), the Great Lakes Fisheries Convention, the Migratory Birds Convention, the North American Waterfowl Management Plan, and for controlling Great Lakes water levels, must integrate their respective activities and plans which affect the protection and management of wetlands.

ACTION STEPS

1) Contact the Great Lakes Fishery Commission, International Joint Commission, Migratory Bird Convention, and North American Waterfowl Management Plan authorities to inform them of our interest, query them about their interests, roles, and plans affecting wetlands, and to raise the possibility of their meeting at the Association of Wetland Managers (AWM) conference to begin discussions about coordinating their wetland activities.
LEAD ORGANIZATIONS: Great Lakes United (GLU)
TARGET DATE: 1989

2) Analyze and report on these international organizations' wetland activities.
LEAD ORGANIZATIONS: Center for the Great Lakes (CGL)
TARGET DATE: 1990

3) Include a session on international agencies' roles in wetland management. (The CGL's report, as well as presentations by the three agencies, can be given here. A discussion of ways to coordinate these agencies' wetland activities can begin here.)
LEAD ORGANIZATIONS: Association of Wetland Managers (AWM), Great Lakes United (GLU)
TARGET DATE: 1990

4) Continue to monitor and encourage these agencies' activities to coordinate their work related to wetlands.
LEAD ORGANIZATIONS: Sierra Club (SC), Wildlife Habitat Canada (WHC), Izaak Walton League (IWL), National Wildlife Federation (NWF), GLU
TARGET DATE: Ongoing

Recommendation 2

The Great Lakes Water Quality Agreement (GLWQA) should be utilized to protect wetlands. The United States and Canadian federal governments should initiate activities necessary to fulfill their obligation for wetland protection pursuant to Annex 7 and Annex 13 of the existing Agreement. When the GLWQA is next reviewed by both governments, a new Annex dealing specifically with wetlands should be added.

ACTION STEPS

1) Contact the US EPA Great Lakes National Program Office (GLNPO), Environment Canada, the IJC's Science Advisory Board and Water Quality Board to learn the status of their efforts on wetlands.
LEAD ORGANIZATIONS: GLU
TARGET DATE: 1990

2) Draft a Wetlands Annex to present to the parties responsible for drafting annexes to the GLWQA.
LEAD ORGANIZATIONS: GLU, CGL
TARGET DATE: 1990-91

Recommendation 3

The Great Lakes provinces and states should adopt Basin-wide principles for wetland conservation and restoration, as they have done for water supply (the Great Lakes Charter) and toxic substances (Toxic Substances Control Agreement).

ACTION STEPS

1) Set up a meeting or conference call with the Council of Great Lakes Governors and their provincial liaisons to assess whether there is a Premier or Governor who would champion such an agreement.
LEAD ORGANIZATIONS: CGL
TARGET DATE: 1990

2) Set up a meeting or conference call with the environmental administrators or their provincial and state wetland counterparts to assess opportunities for an agreement to coordinate their wetland programs.
LEAD ORGANIZATIONS: CGL
TARGET DATE: 1990

3) Collect information on provincial and state wetland programs and analyze the relevant provisions in state and provincial law and regulations.
LEAD ORGANIZATIONS: SC, Tip of the Mitt Watershed Council
TARGET DATE: Done (See Appendix C)

4) Draft a set of "model principles" for presentation to the states and provinces.
LEAD ORGANIZATIONS: CGL
TARGET DATE: 1991

5) Encourage state and provincial environmental administrators to agree on these principles.
LEAD ORGANIZATIONS: State and Provincial Groups
TARGET DATE: 1991

Recommendation 4

Each province and state should prepare comprehensive wetlands plans and enact legislation and regulation needed to implement the Basin-wide wetlands principles recommended above.

ACTION STEPS

1) Draft a model comprehensive wetlands plan and supporting legislation.
LEAD ORGANIZATIONS: Freshwater Foundation (FWF)
TARGET DATE: 1991-2

2) Convene a provincial/state legislative symposium to discuss wetland legislation and consider the advantages of a more consistent Basin-wide approach.
LEAD ORGANIZATIONS: FWF and CGL
TARGET DATE: 1991-2

3) Monitor state and provincial progress to ensure enactment.
LEAD ORGANIZATIONS: State and Provincial Groups
TARGET DATE: Ongoing

Recommendation 5

The states and provinces should include wetland specialists in Remedial Action Plan (RAP) development teams and encourage wetland protection and restoration in the goals, recommendations, and remedial measures for each area of concern identified by the International Joint Commission.

ACTION STEPS

1) Assess how wetlands are being treated in Remedial Action Plans.
   LEAD ORGANIZATIONS: Federation of Ontario Naturalist (FON), CGL
   TARGET DATE: 1990

2) Include sessions at the AWM conference to discuss how wetlands are being treated in RAPs.
   LEAD ORGANIZATIONS: AWM and CGL
   TARGET DATE: 1990

3) Do case studies of noteworthy treatments of wetlands in RAPs.
   LEAD ORGANIZATIONS: CGL and FON
   TARGET DATE: 1990

4) Organize a session on wetlands in the GLU conference for RAP citizen leaders.
   LEAD ORGANIZATIONS: GLU
   TARGET DATE: 1990

5) Include sessions on wetlands in the CGL workshops for RAP coordinators.
   LEAD ORGANIZATIONS: CGL
   TARGET DATE: 1990

Recommendation 6

Each local government should review wetland inventories in its jurisdiction and prepare plans and zoning ordinances to protect its wetlands from conversion and from the adverse effects of adjoining land use. Local wetland conservation plans should be consistent with the wetlands plan of the province or state.

ACTION STEPS

1) Prepare educational materials on wetlands and the model local ordinance to present to local governments and professional associations about wetland issues.
   LEAD ORGANIZATIONS: Environmental Law Institute (ELI),
   Pennsylvania Environmental Council (PEC)
   TARGET DATE: 1991

2) Hold briefing sessions.
   LEAD ORGANIZATIONS: Consortium Members
   TARGET DATE: 1991

3) Report on municipality-related wetland issues, including model laws and programs, in the Great Lakes Wetlands Newsletter and mail to municipal officials throughout the Basin.
   LEAD ORGANIZATIONS: TOMWC
   TARGET DATE: Ongoing

Recommendation 7

A network of concerned organizations should be established to coordinate Basin-wide initiatives and to build and carry momentum for wetland protection.

ACTION STEPS

1) Formalize a program for continuation of the Great Lakes Wetlands Policy Consortium, and fund and staff the program.
   LEAD ORGANIZATIONS: FWF, GLU
   TARGET DATE: Ongoing

2) Transfer information about wetlands among non-governmental organizations (NGO) through the Great Lakes Wetlands Newsletter.
   LEAD ORGANIZATIONS: Consortium, through TOMWC

TARGET DATE: Ongoing

3) Prepare a model state/provincial wetland report card and host a session to coordinate NGO activities on wetlands.
LEAD ORGANIZATIONS: GLU, SC
TARGET DATE: Annual

4) Host an annual meeting of Great Lakes NGO and agency leaders interested in wetlands. (The first meeting will be at the AWM conference.)
LEAD ORGANIZATIONS: Consortium
TARGET DATE: Annual

Recommendation 8

Non-governmental organizations should launch a Basin-wide wetlands stewardship program, and assume a leadership role in orchestrating a proactive, coordinated approach to increasing the quality and quantity of Great Lakes wetlands.

ACTION STEPS

1) Prepare a master list of the most important sites for wetland conservation. (CGL, GLU, FON and others should encourage them to consider NGO's concerns in establishing this list.)
LEAD ORGANIZATIONS: Consortium, Nature Conservancy Canada
TARGET DATE: 1991

2) Coordinate a regional program to establish and expand NGO wetland watches throughout the Basin.
LEAD ORGANIZATIONS: Consortium, through National Audubon Society and FON
TARGET DATE: 1991

3) Train NGOs about how to develop and implement a stewardship program.
LEAD ORGANIZATIONS: Consortium
TARGET DATE: 1991

B) INCREASING INCENTIVES FOR WETLAND PRESERVATION

In Section B the Consortium recommends that all levels of government must adopt economic and other incentives for wetland preservation and disincentives to wetland alterations by private landowners.

ACTION STEPS

1) Support inclusion of the Great Lakes in to the Coastal Barrier Resources Act, and strengthening amendments to the Act.
LEAD ORGANIZATIONS: LMF, SC
TARGET DATE: 1990-91

2) Support improvements to Federal Income Tax Law that would increase incentives for donation of wetland property.
LEAD ORGANIZATIONS: Consortium Groups
TARGET DATE: Ongoing

C) STRENGTHENING REGULATORY PROGRAMS

In Section C the Consortium recommends that all existing wetland regulatory programs should meet the requirements in Section C(1) of the report (Recommendations 23 through 30). The following Action Steps address current program weaknesses.

ACTION STEPS

1) Support the passage of a model state regulatory program in one state within the Basin. The model program should meet all of the regulatory criteria outlined in Section III (C) (1) of the report (Recommendations 23 through 30).

LEAD ORGANIZATIONS: Lake Michigan Federation (LMF), Sierra Club (SC)
TARGET DATE: 1991

2) **Publicize the survey of state wetland regulatory programs in the Great Lakes Basin.**
LEAD ORGANIZATIONS: Communications Work Group
TARGET DATE: 1990

3) **Analyze the amount of permitted wetland loss in the Great Lakes Basin.**
LEAD ORGANIZATIONS: Environmental Law Institute (ELI)
TARGET DATE: 1991

4) **Support improvements in the Federal 404 program.**
LEAD ORGANIZATIONS: National Wildlife Federation (NWF), Izaak Walton League of America (IWLA), National Audubon Society (NAS), SC
TARGET DATE: 1990

5) Support reauthorization of the Farm Bill.
LEAD ORGANIZATIONS: SC, NWF, IWLA
TARGET DATE: 1990

6) Support improvements in enforcement of federal programs that protect wetlands (404, 401, 309).
LEAD ORGANIZATIONS: NWF, IWLA, SC
TARGET DATE: 1990

7) Support improvement in enforcement of one existing state regulatory program as a model for the Basin. Target Michigan's program.
LEAD ORGANIZATIONS: TOMWC
TARGET DATE: 1990-91

8) Conduct a comprehensive study of enforcement patterns and limitations in the Great Lakes Basin.
LEAD ORGANIZATIONS: ELI
TARGET DATE: 1992

9) Increase awareness of current federal wetland protection programs in Washington:
A) Set up oversight hearings on wetland losses, current programs, their implementation, and their enforcement;
B) Washington Week 1991 focus on wetland quality.
LEAD ORGANIZATIONS: SC, GLU
TARGET DATE: 1991

10) Conduct a survey of the effectiveness of mitigation programs, and distribute the results to organizations in the Network.
LEAD ORGANIZATIONS: LMF
TARGET DATE: 1990-91

11) Support the enactment of a comprehensive national wetlands protection bill.
LEAD ORGANIZATIONS: LMF, SC, NWF, IWLA, NAS
TARGET DATE: 1992

D) ENDING GOVERNMENT FUNDING OF WETLAND DESTRUCTION

In section D the Consortium recommends that government programs which attempt to limit funding of wetland destruction be improved to increase their effectiveness.

ACTION STEPS

1) Support amendments to the Coastal Barrier Resources Act as outlined in the text of the report under Recommendation 42, Section D(2).
LEAD ORGANIZATIONS: NWF, IWLA

TARGET DATE: 1990

2) Support amendments to the Swampbuster provisions of the 1985 Foods Security Act as outlined in the text of the report under Recommendation 2, Section C (2).
LEAD ORGANIZATIONS: NWF, SC, IWLA
TARGET DATE: 1990

E) EXPANDING RESTORATION EFFORTS

Recommendation 44
Opportunities for wetlands restoration in the Great Lakes Basin should be aggressively pursued, and carried out so as to recreate lost wetland functions and values.

ACTION STEPS

1) Develop a pamphlet entitled "Guidelines for Successful Wetland Restoration." Work with resource agencies to develop information pamphlet containing general guidelines for wetland restoration. Include in pamphlet value of wetlands, how to get a "functional assessment" done, ethics of restoration, components of a successful restoration, wetland "enhancement," etc. Target this information to developers, wetland consultants, permit applicants, farmers, natural resource personnel, natural reserve managers, etc.
LEAD ORGANIZATIONS: Wisconsin Wetlands Association (WWA), AWM,
Ducks Unlimited Canada (DUC)
TARGET DATE: 1991

2) Identify "Potential Wetland Restoration Sites" in the Great Lakes Basin. Map or list filled, drained, or disturbed wetland sites; could be made available to developers, wetland consultants, ACOE, USFWS, etc. Priority areas could be designated based on criteria outlined above. Compile list from historic wetland maps, Society of Wetland Scientists, wetland researchers, consultants, etc.
LEAD ORGANIZATIONS: LMF, CGL, WWA
TARGET DATE: 1991

F) IMPROVING WETLAND MANAGEMENT AND RESEARCH

In this section, the Consortium recommends that research efforts should focus on the ecosystem/watershed level and that management programs seek to eliminate abusive disturbances which prevent wetlands from performing their natural functions. Furthermore, they must seek to preserve and enhance critical wetland functions.

ACTION STEPS

1) Work through the North American Waterfowl Management Program to encourage projects which investigate various management plans, particularly the functionally-based management schemes outlined above. See also Coordination and Planning Action Step 1a.
LEAD ORGANIZATIONS: DUC, Wildlife Habitat Canada (WHC)
TARGET DATE: 1991

2) Develop "Wetland Management Database" and educational materials: Work with state and provincial resource agencies and other NGO's to put together list of good studies and educational materials about managing wetlands for different functions. Make this list available to all resource agencies, NGO's and wetland consultants. Obtain copies of these materials and place them in repository. For those topics which lack adequate educational materials on management topics, develop brochures which communicate this information to for the general public. Examples of common management questions are how to build a wildlife pond; how to protect a wetland from effects of adjacent development; how to develop near a wetland with minimal impacts on the wetland; how to put a conservation easement on a wetland or create a local land trust for wetlands, etc.
LEAD ORGANIZATIONS: WWA, DUC, Trout Unlimited, WHC
TARGET DATE: 1991

3) **Circulate list of recommended research priorities to agency, university and other research groups, as well as to public and private funding organizations.**
LEAD ORGANIZATIONS: Consortium
TARGET DATE: 1990

4) **Inventory total past wetland losses, and wetlands at risk, in Great Lakes Basin. Based on existing information from resource and other agency files, surveys of wetland scientists and wetland users, create an inventory of past wetland losses, including the type, size and location of the loss, and the reason for the loss. Use the same sources to identify major threats to remaining wetlands.**
LEAD ORGANIZATIONS: LMF
TARGET DATE: 1991

G) SUPPORTING WETLAND ACQUISITION PROGRAMS

Recommendation 47

Programs that secure permanent protection of wetland ecosystems in the Great Lakes region through acquiring wetlands in fee, by conservation easement, purchase of development rights, or private acquisition by other means should be expanded.

Although this is an ongoing priority of many of the Consortium groups in their particular jurisdiction, more efforts are needed on behalf of all Consortium groups to expand their programs in this arena.

H) EXTENDING EDUCATIONAL OUTREACH

In Section H the Consortium recommends that governments at all levels should increase public access to decision making and that governmental and non-governmental organizations expand their educational and wetland protection efforts.

ACTION STEPS

1) Publicize the recommendations of the Great Lakes Wetlands Policy Consortium.
LEAD ORGANIZATIONS: TOMWC and Consortium Groups
TARGET DATE: 1990

2) Publicize the list of high quality resource materials useful for promoting wetlands conservation at all levels of government.
LEAD ORGANIZATIONS: Consortium Groups on Education Committee
TARGET DATE: 1990

3) Distribute the list of resource materials to organizations active in promoting wetlands conservation.
LEAD ORGANIZATIONS: Consortium Groups on Education Committee
TARGET DATE: 1990

PRESERVING GREAT LAKES WETLANDS:

AN ENVIRONMENTAL AGENDA

Appendices

APPENDIX A: MODEL WETLAND PROTECTION ORDINANCE

Note: This ordinance is adapted from a model published by the American Planning Association under the title "Nontidal Wetland Protection Ordinance." Significant modifications, deletions, and additions were made by the Great Lakes Wetlands Policy Consortium. Throughout the text of the ordinance, brackets are used to set off names of regulatory offices and staff. The appropriate terminology should be substituted depending on the governmental unit considering the ordinance.

Section 1. Ordinance Title

This Ordinance shall be known, and may be cited as, the [local unit of government] Wetland Protection Ordinance.

Section 2. Findings of Fact and Purpose

2.1 Findings of Fact

The wetlands of [local unit of government] are indispensable and fragile natural resources with significant development constraints due to flooding, erosion, and soil limitations. In their natural state, wetlands provide important public benefits and ecological functions. They provide habitat areas for fish, wildlife, and vegetation, water-quality maintenance and pollution control, flood control, shoreline erosion control, natural resource education, scientific study, open space, and recreation opportunities.

A considerable number of these important natural resources have been lost or impaired by draining, dredging, filling, excavating, building, pollution, and other impacts. Piecemeal or cumulative losses are a continuing threat to the remaining wetlands. Damaging or destroying wetlands threatens public safety and the general welfare.

It is therefore necessary for [local unit of government] to ensure maximum protection for wetlands by discouraging development activities in wetlands and those activities at adjacent upland sites that may adversely affect wetlands.

2.2 Purpose

It is the policy of [local unit of government] to encourage or require planning to avoid or minimize damage to wetlands; to require that activities not dependent upon wetland location be located at upland sites; to allow wetland losses only where all practical measures have been applied; to reduce losses from activities that are unavoidable and in the public interest; and to provide for the protection of wetlands under additional ordinances already adopted by [local unit of government], including [building codes, pollution and sediment control ordinances, groundwater management regulations, stormwater management regulations, floodplain zoning, and other pertinent regulations.]

Furthermore, such activities must not threaten public safety or cause nuisances by:

1) Restricting flood flows, destroying flood storage areas, or destroying storm barriers, thereby raising flood heights or velocities on other land and increasing flood damages;
2) Causing water pollution through any means, including location of wastewater disposal systems in wet soils; unauthorized application of pesticides, and herbicides; disposal of solid wastes or stormwater runoff at inappropriate sites; or the creation of unstabilized fills;
3) Increasing erosion; or
4) Increasing runoff of sediment and stormwater.

In addition, it is the policy of [local unit of government] that activities in or affecting wetlands do not destroy natural wetland functions important to the general welfare by:

1) Decreasing breeding, spawning, nesting, wintering, feeding, or other critical habitat for any fish or wildlife, including rare, threatened, and endangered plant and animal species and commercially and recreationally important wildlife;
2) Interfering with the exchange of nutrients needed by fish and other forms of wildlife;
3) Decreasing groundwater recharge;
4) Destroying sites needed for education and scientific research as outdoor biophysical laboratories, living classrooms, and training areas;
5) Interfering with public rights in waters and the recreational opportunities for hunting, fishing, trapping, boating, hiking, birdwatching, photography, camping, and other activities in wetlands; or
6) Destroying aesthetic and property values.

Section 3. Definitions

Words and phrases used in this ordinance shall be interpreted as defined below, and, where ambiguity exists, words or phrases shall be interpreted so as to give this ordinance its most reasonable application in carrying out its regulatory purpose.

"Applicant" means the owner of record of affected property and/or his or her agents, designees or assigns applying for a permit pursuant to this ordinance.

"Buffer" means a naturally vegetated area or vegetated area established or managed to protect wetlands from human disturbances.

"Development" means any artificial change to improved or unimproved real estate, including but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation, or drilling operations.

"Fill material" means soil, rocks, sand, waste of any kind, or any other material which displaces soil or water or reduces water retention potential.

"Free of contamination" means that soil or materials brought to a site for use in the wetland or in the buffer zone of a wetland, shall be free of contamination and non-polluting. Such certification shall be made by the applicant to the satisfaction of the [Wetland Ordinance Administrator]. The [Wetland Ordinance Administrator] shall determine whether there is sufficient reason to require a test for contamination of fill material.

"Functions" means the beneficial roles wetlands serve, including storage, conveyance, and attenuation of floodwaters and stormwaters; groundwater recharge and discharge; protection of water quality and reduction of sediment and erosion; production of waterfowl, game and nongame birds, mammals, and other living resources; protection of habitat for rare, threatened, and endangered species; food chain support for a broad range of wildlife and fisheries; educational, historical, and archeological value protection; and scenic, aesthetic, and recreational amenities.

"Hydrophytic vegetation" means macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.

"Notification" means where notice is required pursuant to this ordinance, written notice sent by first class mail shall be sufficient notice for all purposes hereunder.

"Owner" means any person or agency who has dominion over, control of, or title to, wetland properties.

"Person" means an individual, sole proprietorship, partnership, corporation, association, municipality, the state, an instrumentality or agency of the state, the federal government, an instrumentality or agency of the federal government, or other legal entity.

"Practicable Alternative" means an alternative to the proposed project that would accomplish the basic purpose of the project and avoid or have less adverse environmental impact.

"Structure" means anything constructed or erected with a fixed location on the ground, or attached to something having a fixed location on the ground including but not limited to houses, buildings, bulkheads, piers, docks, landings, dams, waterway obstructions, gas or liquid storage facilities, as well as mobile homes.

"Wetland" means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

Section 4. Lands to Which This Ordinance Applies

4.1 Wetland District

This ordinance shall apply to all lands in or within 25 feet of a wetland located within the jurisdiction of [local unit of government]. Areas shown on the [Zoning Map] as being located within the Wetland District are presumed to be wetlands consistent with the definition thereof. Wetlands may exist in [local unit of government] that are not indicated on the [Zoning Map] and are hereby designated to be within the Wetland District and protected under all of the terms and provisions of this ordinance.

The Wetland District on the [Zoning Map] shows only the general location of wetlands. The map should be consulted by persons contemplating activities in or near wetlands before engaging in a regulated activity. The [Zoning Map], together with all explanatory matter thereon and attached thereto, is hereby adopted by reference and declared to be a part of this ordinance. The [Zoning Map] shall be on file in the office of the [county/township/city clerk].

4.2 Rules for Interpretation of Wetland District Boundaries

The boundaries of the Wetland District shall ordinarily be determined by the applicant through the performance of a field survey applying the wetland definition. The [Zoning Map] is to be used as a guide to the general location of wetlands. The applicant is required under Section 8.2 of this ordinance to show a Wetland District boundary on a scaled drawing submitted as part of the permit application. Wetland delineations shall be performed in accordance with the procedures specified in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands and any subsequent amendments thereto. Evidence documenting the results of the boundary survey may be required by the [Wetland Ordinance Administrator].

The [Wetland Ordinance Administrator] may use remote sensing, hydrology, soils, plant species, and other data, and consult with biologists, hydrologists, soil scientists, or other experts as needed to perform the delineation. The applicant shall be charged for costs incurred.

Where the [Wetland Ordinance Administrator] performs a Wetland District determination at the request of the applicant, it shall be considered a final determination. Where the applicant has provided a determination of the Wetland District boundary, the [Wetland Ordinance Administrator] shall verify the accuracy of, and may render adjustments to, the boundary delineation. In the event the adjusted boundary delineation is contested by the applicant, the [Wetland Ordinance Administrator] may attempt to set mutually agreeable boundaries; or, when such an attempt is unsuccessful, shall, at the applicant's expense, obtain competent expert services to render a final delineation.

Section 5. Permit Requirements, Enforcement

5.1. Permit Requirements, Compliance

No regulated activity in or within 25 feet of a wetland may be conducted without a permit from the [Wetland Ordinance Administrator] and full compliance with the terms of this ordinance and other applicable regulations. All activities that are not permitted as of right or authorized through special permit shall be prohibited.

5.2 Temporary Emergency Permit

Notwithstanding the provisions of this ordinance or any other law to the contrary, the [Wetland Ordinance Administrator] may issue a temporary wetlands permit through oral or written authorization, provided a written permit is accomplished within five days, if he/she deems that an unacceptable threat to life or severe loss of property will occur if an emergency permit is not granted. The emergency permit may be terminated at any time without process upon a determination by the [Wetland Ordinance Administrator] that the action was not or is no longer necessary to protect human health or the environment. The [Wetland Ordinance Administrator] may, within 90 days of the emergency permit, require that the action be reconsidered as an after-the-fact permit, subject to any or all of the terms and provisions of this ordinance.

5.3. Enforcement

Upon reasonable cause, or obtaining a warrant, the [Wetland Ordinance Administrator], and any agents, officers, or employees thereof, shall have authority to enter upon land within [local unit of government] for the purpose of performing their duties under this ordinance and may take or cause to be made such examinations, surveys, or sampling as the [Wetland Ordinance Administrator] deems necessary.

The [Wetland Ordinance Administrator] shall have authority to enforce this ordinance, the requirements of a permit issued under this ordinance, and a violation or threatened violation of this ordinance by violation notices, administrative orders, civil and criminal actions. All costs, fees, and expenses in connection with such actions may be recovered as damages against the violator.

Law enforcement officials or other officials having police powers shall have authority to assist the [Wetland Ordinance Administrator] in enforcement.

Any person who commits, takes part in, or assists in any violation of any provision of this ordinance is guilty of a misdemeanor and may be fined not more that $ ___ for each offense. Each violation of this act shall be a separate offense, and, in the case of a continuing violation, each day's continuance shall be deemed to be a separate and distinct offense.

In the event of a violation, the [local unit of government] shall have the power to order wetland restoration and creation measures for the damaged or destroyed wetland area by the person or agent responsible for the violation. If the responsible person or agent does not complete such measures within a reasonable time following the order, the [local unit of government] may restore the affected wetland to its prior condition and create or restore other wetlands for the purpose of offsetting losses sustained as a result of the violation. The person or agent responsible for the original violation shall be liable to the [local unit of government] for the cost of such actions.

Notwithstanding the existence or pursuit of any other remedy, the County or any other person may maintain an action in any court of competent jurisdiction for an injunction or other process against any person to restrain or prevent violations of this ordinance.

5.4 Abrogation and Greater Restrictions

This ordinance shall not be interpreted so as to repeal, abrogate, or impair any existing regulations, easements, covenants, or deed restrictions. However, where this ordinance imposes greater restrictions, the provisions of this ordinance shall prevail.

5.5 Interpretation

The provisions of this ordinance shall be held to be minimum requirements in their interpretation and application and shall be liberally construed to serve the purposes of this ordinance.

Section 6. Exempt Activities

The following uses shall be allowed as a right within a wetland to the extent that they are not prohibited by any other ordinance or law and provided they do not require structures, grading, fill, draining, or dredging except as provided herein or authorized by special permit:

1) The continued production of agricultural crops on lands that have been in agricultural use prior to the effective date of this ordinance. New conversion of wetlands for agricultural use is not exempted under this ordinance.
2) Forestry practices including the thinning and harvesting of timber. If the [Wetland Ordinance Administrator] determines that ongoing or proposed forestry activities are likely to have a significant impact on wildlife, the protection of water quality, or other functions of wetlands as described in this ordinance, he/she is authorized to require that the forestry activities be conducted in accordance with a forest management plan that incorporates best management practices as determined by a licensed forester. The plan shall make reasonable attempts to protect the range of wetland functions present at the particular site. A forest management plan shall only be required if the [Wetland Ordinance Administrator] specifically requests in writing that the landowner provide such a plan;
3) The pasturing of livestock;
4) Conservation or preservation of soil, water, vegetation, fish, and other wildlife;
5) Outdoor recreational activities, including hunting, fishing, trapping, birdwatching, hiking, boating, horseback riding, swimming, canoeing, or similar activities.
6) The harvesting of wild crops, such as marsh hay, ferns, wild rice, berries, tree fruits, and seeds in a manner that is not injurious to natural reproduction of such crops and provided the harvesting does not require alteration of the wetland by changing existing wetland water conditions or sources, tilling of soil, or planting of crops, and is not otherwise illegal;
7) Commercial fishing and trapping;
8) Educational programs and scientific research;
9) Uses by right that do not require a permit and that may involve filling, flooding, draining, dredging, ditching, or excavating to the extent specifically provided below:
    a. Maintenance or improvement of public streets, highways, or roads, within the right of way and in such a manner as to assure that any adverse effect on the wetland will be otherwise minimized. Maintenance or improvement does not include adding extra lanes, increasing right of way, or deviating from the existing location of the street, highway, or road. Written notice to the [Wetland Ordinance Administrator] is required prior to the commencement of work to be conducted in wetlands under this exemption.
    b. Maintenance or repair of lawfully located structures and facilities used in the service of the public to provide electric, gas, water, telephone, telegraph, telecommunication, or other services, provided that the work is conducted using best management practices. Written notice to the Wetland Ordinance Administrator is required prior to the commencement of work to be conducted in wetlands under this exemption.
    c. Limited ditching, tiling, dredging, excavating, or filling done solely for the purpose of maintaining or repairing existing drainage or irrigation systems or existing access roads necessary for the cultivation of agricultural crops, provided that the maintenance or repair activity does not result in the impairment, alteration, or loss of wetlands not previously subject to agricultural use under the terms and provisions of this ordinance. Written notice to the [Wetland Ordinance Administrator] is required prior to the commencement of work to be conducted in wetlands under this exemption.

Section 7. Activities Requiring Permits

A permit is required for any activity in a wetland, or within twenty-five (25) feet of a wetland, that is not specifically exempted under Section 7 of this ordinance, including but not limited to:

1) Any earth change in a wetland, including the filling, removal, excavation, grading, or dredging of soil, sand, gravel, minerals, organic matter, or materials of any kind;
2) The changing of existing drainage characteristics, sedimentation patterns, flow patterns, or flood retention characteristics;
3) The disturbance of the wetland water level or water table by drainage, impoundment, or other means;
4) The driving of piles, placement of obstructions, and erection or repair of buildings or structures of any kind;
5) The destruction, removal, or impairment of plant life that would have an adverse effect on the functions of

the wetland;

6) The conduct of an activity that results in a significant change of water temperature, a significant change in the physical or chemical characteristics of wetland water sources, or the introduction of pollutants.

Section 8. Standards and Procedures for Permits

8.1 Permits

Application for a permit to conduct a regulated activity shall be made in duplicate to the [Wetland Ordinance Administrator] on forms furnished by his or her office. Permits shall ordinarily be valid for a period of two years from the date of issue and shall expire at the end of that time unless a longer period is specified by the [Wetland Ordinance Administrator] upon issuance of the permit. An extension of an original permit may be granted upon written request to the [Wetland Ordinance Administrator] by the original permit holder or the successor in title. The [Wetland Ordinance Administrator] may require additional hearings if, in his or her judgement, the original intent of the permit is altered or extended by the renewal or if the applicant failed to abide by the terms of the original permit. The request for renewal of a permit shall follow the same form and procedure as the original application except that the [Wetland Ordinance Administrator] shall have the option of not holding a hearing if the original intent of the permit is not altered or extended in any way.

8.2 Permit Applications

Unless the [Wetland Ordinance Administrator] waives one or more of the following information requirements, applications for a permit for a regulated activity shall include:

1) The purposes of the project and an explanation of why the proposed activity requires a wetland location or access to a wetland, or cannot be located at other sites;
2) A site plan drawn to scale showing the Wetland District Boundary and the wetland boundary as determined by field survey; the width, depth, and length of all existing and proposed structures, roads, watercourses, and drainageways; water, wastewater, and stormwater facilities; utility installations within 200 feet of a wetland; and the relationship of the proposed activity and any potentially affected wetland to the entire parcel of land owned by the applicant;
3) A description of the wetland or wetlands that will be affected by the regulated activity, including a sketch plan at the scale of ___ for the entire wetland; the area that may be filled or impacted; vegetation type; wetland water sources; and a general characterization of the habitat, wildlife, and common plants;
4) Soil types on the site and the exact locations and specifications for all proposed draining, filling, grading, dredging, and vegetation removal, including the amounts and methods;
5) Adjacent land use and ownership; and
6) Elevations of the site and adjacent lands within 200 feet of the site at contour intervals of no greater than five feet.

The [Wetland Ordinance Administrator] may require additional information, including, but not limited to, documentation and evidence of a wetland boundary determination by field survey; an assessment of wetland functional characteristics; documentation of the ecological, aesthetic, economic, or other values of a wetland; a study of flood, erosion, or other hazards at the site; evidence of any protective measures that might be taken to reduce such hazards; and any other information deemed necessary to verify compliance with the provisions of this ordinance or to evaluate the proposed use in terms of the purposes of this ordinance.

Any person who wants to know whether a proposed activity or an area is subject to this ordinance may request in writing a determination from the [Wetland Ordinance Administrator]. Such a request for determination shall contain plans, data, and other information as may be specified by the [Wetland Ordinance Administrator].

At the time of an application or request for determination, the applicant shall pay a filing fee specified by the [Wetland Ordinance Administrator]. Filing fees of up to a maximum of $___ may be required to evaluate the application. These fees may be used to retain expert consultants who will provide services pertaining to wetland boundary determinations, functional assessment, and mitigation measures, as deemed necessary by the [Wetland Ordinance Administrator].

Upon receipt of the completed application, the [Wetland Ordinance Administrator] shall notify the individuals and agencies, including federal and state agencies, having jurisdiction over or an interest in the matter within 10 days so as to provide such individuals and agencies an opportunity to comment. Adjacent landowners within 300 feet shall be notified by mail within the same time frame.

The [Wetland Ordinance Administrator] shall establish a mailing list of all interested persons and agencies who wish to be notified of such applications.

8.3 Public Hearing and Recommendations

If the [Wetland Ordinance Administrator] determines that the application could have significant impacts on a wetland in [local unit of government], a public hearing shall be scheduled. The hearing shall be held no later than 60 days after receipt of the permit application. Notice of the hearing shall be published in one newspaper having general circulation in the area at least 15 days prior to the hearing date. All hearings shall be open to the public. A record of the hearing shall be made.

Any person may present evidence and testimony at the hearing. At the hearing, the applicant shall have the burden of demonstrating that the proposed activity will be in accordance with the purposes of this ordinance and the standards set forth below.

8.4 Permit Standards

The [Wetland Ordinance Administrator], after according consideration to the comments of the general public, other affected municipalities and counties, and federal and state agencies with jurisdiction over the area in question, shall issue a wetland permit only if it is found that the regulated activity is determined to be in the public interest and that the applicant has demonstrated by a preponderance of the evidence that the regulated activity:

1) Is water-dependent or requires access to the wetland as a central element of its basic function, or is not water-dependent but has no practical alternative;
2) Will result in minimum feasible alteration or impairment to the wetland's functional characteristics and its existing contour, vegetation, fish and wildlife resources, and hydrological conditions;
3) Will not destroy critical habitat for any species that appears on federal or state endangered species lists;
4) Will not cause significant degradation of groundwater or surface-water quality;
5) Complies with all applicable state, local, and federal laws, including those related to sediment control, pollution control, floodplain zoning, and on-site wastewater disposal;
6) Will provide a wetland buffer area of not less than 25 feet between the wetland and upland activities for those portions of a regulated activity that need not be conducted in the wetland;
7) Complies with other standards contained in this ordinance, including those pertaining to wetland creation and restoration as required; and
8) Does not result in any overall loss of wetland area or function.

8.4.1 Practicable Alternatives Test

For all permit applications, an alternative site for the proposed activity shall be considered practicable if it is available and makes accomplishing the basic purpose possible while having less negative environmental impact. There is no practicable alternative if the applicant demonstrates all of the following to the satisfaction of the [Wetland Ordinance Administrator]:

1) The basic purpose of the project cannot reasonably be accomplished using one or more other sites in the general region that would avoid or result in less adverse impact on a wetland;
2) The basic purpose of the project cannot be accomplished by a reduction in the size, scope, configuration, or density of the project as proposed or by changing the design of the project in a way that would avoid or result in fewer adverse effects on the wetland; and
3) In cases where the applicant has rejected alternatives to the project as proposed due to constraints such as inadequate zoning, infrastructure, or parcel size, the applicant has made reasonable attempts to remove or accommodate such constraints.

8.4.2 Public Interest Test

In determining whether a proposed regulated activity in any wetland is in the public interest, the [Wetland Ordinance Administrator] shall consider the following:

1) The extent of the public need for the proposed activity;
2) The extent and permanence of the beneficial or detrimental effects that the proposed regulated activity may have on the public and private uses for which the property is suited;
3) The quality of the wetland that may be affected and the amount of wetland to be disturbed;
4) The economic value of the proposed regulated activity to the general area; and
5) The ecological value of the wetland and probable impact on public health and safety, fish, plants, and wildlife.

8.4.3 Wetland Restoration and Creation

As a condition of a permit issued or as an enforcement action under this ordinance, the [Wetland Ordinance Administrator] may require that the applicant engage in the restoration or creation of wetlands in order to offset, in whole or in part, the losses resulting from an applicant's or violator's actions. In making a determination of whether such a requirement will be imposed, and, if so, the degree to which it would be required, the [Wetland Ordinance Administrator] will consider the following:

1) The long- and short-term effects of the action upon the wetland and associated aquatic ecosystem, and the reversible or irreversible nature of the impairment or loss;
2) The type and benefit of the wetland functions and associated resources lost;
3) The type, size, and location of the wetland altered, and the effect it may have upon the remaining system or watershed of which the wetland is a part;
4) Observed or predicted trends with regard to the gains or losses of this type of wetland in the watershed, in light of natural and human processes;
5) The cost and likely success of the possible compensation measures in relation to the magnitude of the proposed project or violation; and
6) The degree to which the applicant has demonstrated a good-faith effort to incorporate measures to minimize and avoid wetland impacts within the proposed project.

The applicant or violator may prepare or be required by the [Wetland Ordinance Administrator] to develop a wetland restoration or creation plan for review and approval. The creation or restoration of wetlands shall not be an alternative to the standards set forth in Section 8 but shall be used only to compensate for unavoidable losses.

The plan should include a map showing the location of the proposed site; ownership, size, type, and complete ecological assessment (flora, fauna, hydrology, wetland functions, etc.) of the wetland being restored or the area where a new wetland will be created; and the natural suitability of the proposed site for establishing the replacement wetland (i.e., water source and drainage patterns, topographic position, wildlife habitat opportunities, value of the existing area to be converted, etc.). In addition, plane view and cross-sectional, scaled drawings; topographic survey data, including slope percentage and final grade elevations; and other technical information are required in sufficient detail to explain, illustrate, and provide for:

1) Soil and substrate conditions; topographic elevations; grading and excavation; erosion and sediment control needed for wetland construction and long-term survival;
2) Planting plans specifying plant species types, quantities, locations, size, spacing, or density; source of plant materials, propagules, or seeds; timing, season, water, and nutrient requirements for planting; and, where appropriate, measures to protect plants from predation and propogation of nuisance vegetation;
3) Water-quality parameters, water sources, water depths, water-control structures, and water-level maintenance practices needed to achieve the necessary ambient water conditions and hydrocycle/hydroperiod characteristics;
4) Mid-course corrections and a three-year monitoring and replacement plan establishing responsibility for removal of exotic and nuisance vegetation and permanent establishment of the wetland system and all its component parts; and
5) A demonstration of fiscal, administrative, and technical competence of sufficient standing to successfully execute the overall project.

8.4.4 Wetland Restoration and Creation Alternatives

Ordinarily, the applicant or violator shall undertake restoration or creation efforts on or adjacent to the site where permanent losses have been sustained or where restoration of a former wetland is possible. Replication "in-kind" of the impacted wetland will be the preferred alternative for creation or restoration efforts. Where the applicant has demonstrated to the satisfaction of the [Wetland Ordinance Administrator] that this approach is infeasible due to technical constraints, such as parcel or wetland size or wetland type, or that a wetland of a different type or location is strongly justified based on regional needs or the functional value of the impacted wetland, the [Wetland Ordinance Administrator] may accept or recommend an alternative proposal. Such proposal may involve monetary compensation as provided for in this section or the creation or restoration "out of kind" and "off site."

The [Wetland Ordinance Administrator] shall set reasonable fees for compensation of wetland losses based upon the amount that would be required to perform on-site, in-kind restoration or creation. Where the [Wetland Ordinance Administrator] determines that the public interest is better served, a fee in lieu of direct action on behalf of the applicant or violator to initiate restoration or creation projects may be required. Such fees shall be held in escrow for the express use of wetland creation and restoration projects and shall not be comingled with other funds.

8.5 Review of Permit Applications

8.5.1 Permit Conditions

The [Wetland Ordinance Administrator] shall attach such conditions to the granting of a permit as deemed necessary to carry out the purposes of this ordinance. Such conditions may include but are not limited to:

1) Limitations on minimum lot size for any regulated activity;

2) Requirements that structures be elevated on piles and otherwise protected against natural hazards;
3) Modification of waste disposal and water supply facilities;
4) Imposition of operational control, sureties, and deed restrictions concerning future use and subdivision of lands, such as flood warning, preservation of undeveloped areas in open space use, and limitation of vegetation removal;
5) Dedication of easements or other perpetual conservation restrictions to protect wetlands;
6) Establishment and maintenance of vegetated buffer zones separating and protecting the wetland from proposed activities;
7) Erosion control and stormwater management measures;
8) Setbacks for structures;
10) Limitations on the amount of fill material, and requirements that fill material must be free of contamination;
11) Modification in project design to ensure continued water supply to the wetland and circulation of water in the wetland system;
12) Development of a plan to guide actions involving the creation of a new wetland or the restoration of a damaged or degraded wetland. Applicable state or federal standards must be followed if creation or restoration projects are proposed.

The [Wetland Ordinance Administrator] may require a bond in an amount and with surety and conditions sufficient to secure compliance with the conditions and limitations set forth in the permit. The particular amount and the conditions of the bond shall be consistent with the purposes of this ordinance. In the event of a breach of any condition of any such bond, the [Wetland Ordinance Administrator] may institute an action in a court of competent jurisdiction upon such bond.

8.5.2 Suspension, Revocation

The [Wetland Ordinance Administrator] may suspend or revoke a permit if it finds that the applicant has not complied with the conditions or limitations set forth in the permit, or has exceeded the scope of the work set forth in the permit, or has obtained a permit by misrepresentation of, or failure to fully disclose, any relevant facts. The [Wetland Ordinance Administrator] shall publish notice of any denial, issuance, conditional issuance, revocation, or suspension of a permit in a daily newspaper having a broad circulation in the area.

Section 9. Nonconforming Activities

Any lawfully established operation, use, or structure existing at the time of enactment or affected by subsequent amendment of this ordinance, but not in conformity with its provisions, may be continued subject to the following:

1) No such activity shall be expanded, changed, enlarged, or altered in a way that increases its non-conformity with this ordinance unless a permit is obtained.
2) Any project specifically designed to achieve compliance with existing state or local health, sanitary, building, or safety code specifications which are solely necessary to assure safe living conditions shall not be restricted under this Section, provided that the [Wetland Ordinance Administrator] may impose reasonable terms and conditions to protect wetlands.

The burden of proof of establishing the existence of a non-conforming use shall be upon the person requesting such a determination. If there is a reasonable doubt as to the factual existence of a non-conforming use, the Wetlands Appeals Board shall make a final determination as to the status of the use.

Section 10. Wetlands Ordinance Appeals

10.1 Appeals Board

For the purposes of this ordinance there is hereby established a "Wetlands Appeals Board", consisting of three to five members, appointed by the [local unit of government]. The members shall include a person knowledgeable in water resources, an elected official in a local unit of government, and a property owner in the local unit of government.

The Wetlands Appeals Board shall act on all questions as may arise in the administration of the Wetlands Ordinance, and in particular from aggrieved parties alleging any error, or disagreement with any determination, ruling, or other decision of the Administrator. The appeals board may solicit technical assistance from qualified individuals relative to the effect of the appeal on the wetland resource cited in the appeal.

10.2 Appeals Standards

The Wetlands Appeals Board shall assemble and examine all facts pertaining to the appeal, including records under the jurisdiction of the [Wetlands Ordinance Administrator]. The appeals hearing shall be open to the public, and each decision shall be in accord with the following standards:

1) The applicant has no practicable alternative to the proposed activity.
2) The applicant's site plan shows a significant attempt to preserve and protect the wetland.
3) The decision is based on proper procedures as specified in the ordinance, and is supported by competent evidence on the record.
4) The decision would not result in a violation of state law or of the constitution of the state.

10.3 Rules of Procedure

The Wetlands Appeals Board shall draft rules of procedure governing meetings, the order of business, by-laws, and hearings. All appeals shall be appropriately noticed by publication in a newspaper of general circulation in the area. Such notice shall be given not less than ten (10) days nor more than twenty (20) days before the hearing date.

Section 11. Judicial Review

This Ordinance shall not be construed to abrogate rights or authority otherwise provided by law.

For the purposes of determining if there has been a taking of property without just compensation under [state] law, an owner of property who has sought and has been denied a permit or has been issued a permit subject to modifications or conditions under this Ordinance may file an action in a court of competent jurisdiction.

If the court determines that an action of [local unit of government] pursuant to this Ordinance constitutes a taking of the property of a person, then the court shall order [local unit of government], to choose one or more of the following options:

1) Compensate the property owner for the full amount of the lost value.
2) Purchase the property at its fair market value.
3) Modify its action with respect to the property so as to minimize the detrimental effect to the property's value.

Section 12. Amendments

These regulations and the [Zoning Map] may from time to time be amended in accordance with procedures and requirements in the general statutes and as new information concerning wetland locations, soils, hydrology, flooding, or botanical species peculiar to wetlands become available.

Section 13. Assessment Relief

Assessors and boards of assessors shall consider wetland regulation in determining the fair market value of land. Any owner of an undeveloped wetland who has dedicated an easement or entered into a perpetual conservation restriction with [local unit of government] or a nonprofit organization to permanently control some or all regulated activities in the wetland shall have that portion of land assessed consistent with those restrictions. Such landowners shall also be exempted from special assessment on the controlled wetland to defray the cost of municipal improvements such as sanitary sewers, storm sewers, and water mains, unless these improvements serve existing uses on the property or potential uses not restricted by easement or perpetual agreement.

Section 14. Severability

If any section, subsection, clause, phrase, or portion of this Ordinance is, for any reason, held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions thereof.

Section 15. Effective Date

The provisions of this ordinance shall take effect thirty (30) days after the publication of this Ordinance.

Made and passed by [local unit of government] on this _________ day of __________________, 19____.

Note: The following section may be added at the discretion of the community considering the ordinance. Restoration and creation of wetlands is a very technical subject, and the state of the science is far from perfect. A community should not add restoration and creation mechanisms to an ordinance unless it has the resources to hire a wetland ordinance administrator with skills in evaluating and monitoring these projects.

APPENDIX B: EXAMPLES OF EDUCATIONAL OUTREACH PRODUCTS

1. Television/Video: (all targets)
   - A. "Last Dance," TBS Super Station, National Audubon Society and Stroh Brewery Company.
   - B. "Good-bye Golden Pond," TBS Super Station, National Audubon Society and Stroh Brewery Company.
   - C. "A Magnificent Celebration of Nature," TBS Super Station, National Audubon Society and Stroh Brewery Company.
   - D. "The Wetlands of Wisconsin: An Endangered Resource," Slide show developed by Wisconsin Wetland Association, 111 King Street, Madison, WI 53703.
2. Newspaper: (all targets)
   - A. "Your Opinion: DNR lax on enforcement of wetland regulations," Times Herald. William Collins, Port Huron.
3. Radio/PSA's: (all targets)
   - A. Wetlands PSA - 30 seconds, Pennsylvania Environmental Council.
   - B. Wetlands PSA - 60 seconds, Pennsylvania Environmental Council.
   - C. Watching Migration PSA - 30 seconds, National Audubon Society.
   - D. Watching Migration PSA - 60 seconds, National Audubon Society.
4. Schools: (teacher)
   - A. Field Manual for Water Quality Monitoring: An Environmental Education Program for Schools, Mark K. Mitchell and William B. Stapp. 150 pages, 6X9 inches, 70 photos and charts, paperbound. Available through William Stapp, 2050 Delaware, Ann Arbor, MI 48103. $6.80 postpaid.
   - B. Project Mayfly: a guide to the determination of water quality in local waterways, Kay Wider. Pennington, NJ. $5.00 each.
   - C. Environmental Education Curriculum Guides: Grades K-12, Living Lightly on the Planet and Living Lightly in the City. Living Lightly, Schlitz Audubon Center, 111 East Brown Deer Road, Milwaukee, WI 53217. Unit price $15.00 each.
   - D. Audubon Adventures: Leaders Guide, Anne Schwartz. National Audubon Society, 613 Riversville Road, Greenwich, CT 06831.
   - E. Tracks: Teacher Guide, Christie Bleck. Tracks, P.O. Box 30235, Lansing, MI 48909.
   - F. Michigan State University Cooperative Extension Service 4-H Youth Programs, "Wetlands Affect You and Me," #4-H 1038
   - G. United States Fish and Wildlife Service, Habitat and Issues Pack for Wetlands.
5. Schools: (students)
   - A. Wetlands Encounters: Presentations on Conservation and Ecology Using Live Michigan Wildlife. Dennis Laidler. Wetland Encounters, MUCC P.O. Box 30235, Lansing, MI 48909. Cost $100.00.
   - B. Wildlife Discovery: Elementary Classroom Presentations on Conservation and Ecology, MUCC, P.O. Box 30235, Lansing, MI 48909.
   - C. Tracks Magazine, Christie Bleck. Tracks, P.O. Box 30235, Lansing, MI 48909. Classroom subscription available for $1.50 per student a school year.
   - D. Audubon Adventures, Fredrick Baumgarten. National Audubon Society, 613 Riversville Road, Greenwich, CT 06831.
6. Outdoor Sports: (public)
   - A. Michigan Duck Hunters Association Newsletter
7. Outdoor Sports: (students)
   - A. MUCC Youth Camp, MUCC, P.O. Box 30235, Lansing, MI 48909
8. Workshops: (all targets)
   - A. Wetlands: A Workshop for Citizen Involvement, Pennsylvania Wetlands Workshop, Sierra Club, Box 606, Harrisburg, PA 17108.
   - B. Wetlands Protection Seminar, Pennsylvania Environmental Council.
   - C. National Wetland Symposium: Urban Wetlands and Riparian Habitat, The Association of Wetland Managers, Inc., Box 2463, Berne, NY 12023.
   - D. Wetlands of the Great Lakes: Status of the Science Base; Protection and Management Options and Needs, Association of Wetland Managers, Box 2463, Berne, NY 12023.
   - E. MUCC Weekend Courses: Become an Instant Naturalist, Beastly Behavior, Raptor Rendezvous. Weekend Course, MUCC, P.O. Box 300235, Lansing, MI 48909. Cost without meals $95.00 member, $105.00 non-member.
9. Manual: (legislative, regulatory, landowner)
   - A. Urban Development Planning Guide, Hoosier Heartland RC&D, 5995 Lakeside Blvd. Suite B, Indianapo-

lis, IN 46278. Cost $17.00 each.
B. Wetlands: Mitigating and Regulating Development Impacts, the Urban Land Institute, 1090 Vermont Ave. NW, Washington DC 20005-4962.
C. Wetland Protection Guidebook, Michigan Department of Natural Resources Land and Water Management Division, P.O. Box 30028, Lansing, MI 48909.
D. Wetlands Protection: A Handbook for Local Officials, Department of Environmental Resources, Commonwelth of Pennsylvania, Harrisburg, PA 17120

10. Manual: (activist)
A. How to Cope With the Corps, Marvin Zeldin and W. Carlyle Blakeney, Jr., A citizen action manual for those concerned about the U.S. Corps of Engineers' environmentally destructive and economically wasteful water programs. Ecopress, P.O. Box 786, Charleston, SC 29402.
B. Michigan Wetlands - Yours to Protect. A Citizen's Guide to Local Involvement in Wetland Protection, Tip of the Mitt Watershed Council, Box 300, Conway, MI 49722.
C. A Citizen's Guide to Protecting Wetlands, National Wildlife Federation, 1400 16th Street NW, Washington, D.C. 20036. Cost $10.25
D. Wetlands and Water Quality: A Citizen's Guide to Wetland Protection, Lake Michigan Federation, 59 E. Van Buren Street, Suite 2215, Chicago IL 60605, $6.95.

11. Newsletter: (legislative)
A. "Council Commentary: A Newsletter of the Council of Great Lakes" Governors, Council of Great Lakes Governors, 310 South Michigan Avenue, Tenth Floor, Chicago, IL 60604.
B."Focus On International Joint Commission Activities," IJC Regional Office, 100 Ouellette Avenue, Eighth Floor, Windsor, Ontario, Canada C.U.S. Water News, U.S. Water News, Inc. and the Freshwater Foundation, 230 Main Street Halstead, Kansas 67056.

12. Newsletter: (regulatory)
A. "Natural Resources Register," Michigan Department of Natural Resources, Office of Information, Box 30028, Lansing, MI 48909.

13. Newsletter: (NGO's)
A. "The Leader," published for affiliate leaders of the National Wildlife Federation. NWF, 1400 Sixteenth Street NW, Washington, D.C. 20036.
B. "Audubon Leader, News for Audubon Chapter Leaders." National Audubon Society, 7 North Meridian Suite 400, Indianapolis, IN 46204.
C. "Lake Michigan Monitor," Lake Michigan Federation, see address under number 10 above.
D. "Great Lakes Reporter, Center for the Great Lakes," 435 North Michigan Ave., Suite 1408, Chicago IL 60611.
E. "Our Wetlands," Wisconsin Wetlands Association, 111 King Street, Madison WI 53703.

14. Newsletter: (activist, public)
A. "Great Lakes Wetlands," published by the Tip of the Mitt Watershed Council, P.O. Box 300, Conway MI 49722.
B. Letters and Alerts: "Endangered Species Act Reauthorization Bulletin," produced by Center for Environmental Education, 1725 DeSales Street NW, Washington, D.C. 20036. Sent by National Audubon Society, 645 Pennsylvania Avenue SE, Washington, D.C. 20003.

15. Brochures: (landowner)
A. "Michigan Wetlands: A Guide for Property Owners and Home Builders," Michigan Department of Natural Resources, Land and Water Management Division, P.O. Box 30028, Lansing, MI 48909.
B. "Wetland Regulations in Indiana: Before You Work in a Wetland...," Indiana Department of Environmental Management and Indiana Department of Natural Resources.
C. "Indiana's T by 2000: Lake Enhancement Program," Division of Soil & Water Conservation, Indiana Department of Natural Resources, FLX1 Building, Purdue University, West Lafayette, IN 47907

16. Brochures: (public)
A. "Recognizing Wetlands," U.S. Army Corps of Engineers.
B. "You man need an Army permit to work on your own land," U.S. Army Corps of Engineers, Buffalo District.
C. "What Endangered Resources Gives Lake County Cleaner Water, Flood Protection, Erosion Control, Wildlife Habitat, and More?," Lake County Health Department, Environmental Health Division, 3010 Grand Avenue, Waukegan, IL 60085.
D. "The Platte: A River Under Siege, Water development projects threaten to dry up the Platte River in Nebraska - an essential migratory stopover for 500,000 sandhill cranes." Platte River Campaign, National Audubon Society, 801 Pennsylvania Avenue SE, Suite 301, Washington, D.C. 20003.

   E. "America's Endangered Wetlands," Department of the Interior, U.S. Fish and Wildlife Service.
   F. "America's Wetlands: Our Vital Link Between Land and Water," U.S. Environmental Protection Agency, Office of Wetlands Protection, Office of Water, Washington, D.C. 20460

17. Comics: (student)
   A. "Welcome to Wetlands, U.S. Environmental Protection Agency," Region 5, 230 South Dearborn Street, Chicago, IL 60604.
18. Fact Sheet: (legislative, regulatory)
   A. "Wetland Protection Coalition for Pennsylvania," Pennsylvania Environmental Council, Inc., 1211 Chestnut Street, Suite 900, Philadelphia, PA 19107.
19. Fact Sheet: (activist, public)
   A. "Great Lakes Facts, The Center for the Great Lakes," 435 N. Michigan Avenue, Suite 1408, Chicago, IL 60611.
   B. "National Wildlife Federation Action Alert," National Wildlife Federation, 1400 Sixteenth Street NW, Washington, D.C. 20036.
   C. "National Audubon Society: Putting Science to Work," National Audubon Society, Environmental Policy Analysis Department, Science Division, 950 Third Avenue, New York, NY 10022.
20. Fact Sheet: (landowner, business)
   A. Fact Sheet: "Great Lakes Areas of Concern," The Center for the Great Lakes, 435 N. Michigan Avenue, Suite 1408, Chicago, IL 60611.
21. Research Papers: (all targets)
   A. "Wetland Plants and Plant Communities of Minnesota and Wisconsin," Steve Eggers and Donald M. Reed. Published by U.S. Army Corps of Engineers, 1987. U.S. Army Corps of Engineers, 1421 U.S. Post Office and Customs House, St. Paul, MN Cost $5.95.
22. Reports: (activist, public)
   A. "The Great Lakes Reporter, The Center for the Great Lakes," 435 N. Michigan Avenue, Suite 1408, Chicago, IL 60611.
   B. "Mid-Atlantic Wetlands: A Disappearing Natural Treasure," U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, National Wetlands Inventory Project, One Gateway Center, Suite 700, Newton Corner, MA 02158.
23. Reports: (regulatory)
   A. "The National Wetlands Policy Forum Issues and Options," The Conservation Foundation, 1250 24th Street NW, Washington, D.C. 20037.
24. Reports: (NGO's, extension)
   A. "Mid-Atlantic Wetlands: A Disappearing Natural Treasure," U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, National Wetlands Inventory Project, One Gateway Center, Suite 700, Newton Corner, MA 02158.
25. Reports: (legislative)
   A. "Great Lakes Science Advisory Board: Report to the International Joint Commission," 1989 Report Highlights.
   B. "Great Lakes Water Quality Board: Report to the International Joint Commission," 1989 Report on Great Lakes Water Quality, Executive Summary.
   C. "Great Lakes Basin Plan: Great Lakes Basin Commission, Wetland Policy Plan and Environmental Impact Statement," August 1981.
26. Collateral: (all targets)
   A. "Michigan Wetlands: A Heritage Worth Saving." Poster, Produced by the Nongame Wildlife Fund, Natural Heritage Program, Wildlife Division, Michigan Department of Natural Resources, P.O. Box 30028, Lansing, MI 48909.
   B. "KEEP IT CLEAN: It's Our Air." Bumper Sticker, National Audubon Society.
   C. "Save Illinois' Finest River: The Middle Fork." Bumper Sticker.
27. News Conference: (all targets)
   A. DU News, Congress Passes Wetlands Bill. Ducks Unlimited National Headquarters, One Waterfowl Way, Long Grove, IL 60047.
   B. National Wildlife Federation News, NWF Denounces Administration Delay of Wetlands Agreement. Public Affairs Department, 1400 16th Street NW, Washington, D.C. 20036.
28. Watch Programs: (activist, public)
   A. MUCC's Wetland Watch Program, Michigan United Conservation Clubs, P.O. Box 30235, Lansing, MI 48909.
   B. National Audubon Society Wetlands Watch Program, Great Lakes Regional Office, 7 North Meridian

Street Suite 400, Indianapolis, IN 46204 (317) 631-2676
C. Wetlands Information Network, Wisconsin Wetlands Association, 111 King Street, Madison WI 53703
D. Water Watch Program: Adopt a Stream, Lake or Wetland, Division of Water, 18 Reilly Road, Frankfort, KY 40601

29. Hotline: (activist, public)
    A. Report All Poaching, Michigan Department of Natural Resources, 1-800-292-7800.
30. Billboards: No Examples.
31. Projects: No Examples.
32. Advocacy Days: No Examples.

The following chart analyzes the groups or organizations that should be responsible for developing these types of materials, and the audiences they can effectively reach.

INITIATORS, PARTICIPANTS, AND TARGETS OF EDUCATIONAL OUTREACH

MECHANISM / TARGET	LEGISLATIVE	REGULATORY	NGO's	ACTIVIST	LANDOWNER	TEACHER	EXTENSION	STUDENT	PUBLIC	BUSINESS
TELEVISION-VIDEO		I	IT 1	T 1				T 1	T 1	
NEWSPAPER	I	IT 2	I	IT 2	T 2	T 2	I	T 2	T 2	
RADIO-PSA's		I	I		T 3			T 3	T 3	PT 3
BILLBOARDS		I	I		T	T		T	T	PT
SCHOOLS		I	I	IP		T 4	IP	T 5		P
OUTDOOR SPORTS		IP	I	P				T 7	T 6	
WORKSHOPS	P	P	I	T 8	T 8		P 8			T 8
MANUAL	T 9	IT 9	I	T 10	T 9				T	
NEWSLETTER	T 11	IT 12	IT 13	T 14			T		T 14	
BROCHURE		I	I		T 15				T 16	
COMICS		I	I				I	T 17		
FACT SHEET	T 18	IT 18	I	T 19	T 20	T	I		T 19	T 20
RESEARCH PAPERS		IPT 21	IT 21	T 21		T 21				T 21
REPORTS	T 25	IT 23	IT 24	T 22			T 24		T 22	
PROJECTS			IT	T	T		I			T
HOTLINE			I	T					T	
COLLATERAL			IT 26	T 26				T 26	T 26	
NEWS CONFERENCE	T 27	T 27	IT 27	IT 27					T 27	
WATCH PROGRAMS			I	T 28					T 28	
ADVOCACY DAYS	T	P	I	T				T		

NOTE: Numbers in grid correspond to Appendix B

I = Initiators P = Participants T = Targets

APPENDIX C: WETLANDS PROTECTION THROUGH STATE AND PROVINCIAL REGULATION: A COMPARISON OF EXISTING PROGRAMS IN THE GREAT LAKES BASIN

1) INTRODUCTION

This Appendix analyzes the existing programs in the eight Great Lakes Basin states and Ontario, and discusses the specifics of each program. The existing programs are analyzed here to identify inadequacies and problem areas, and to facilitate the development of more comprehensive wetland protection.

A questionnaire was sent to environmental organizations in each of the states and Canada. Review of actual administrative rules and state statutes and some personal communication with various agency staff were also employed. Many of the states have new legislation pending or in the development stages, which may change the findings of this report in the near future.

2) OVERVIEW OF PRESENT STATE AND PROVINCIAL PROGRAMS

The following is a brief synopsis of the present state and provincial wetland protection programs in the Great Lakes Basin.

Illinois-
The state has passed the Interagency Wetlands Policy Act of 1989 which is limited to state agency activities in wetlands. Though not specifically identified as for wetland protection, permitting under the Canals and Waterways Laws may affect wetlands.

Indiana-
No comprehensive wetlands legislation. The state relies on the U.S. ACOE permit program primarily. State permits are required for work affecting the floodway under the Flood Control Act, and for work affecting lakes (including wetlands below the legally established high water line) under the Lake Preservation Law. There is no state definition of wetlands. Areas classified as "riparian" or "wildlife" habitat can receive reduced tax assessments.

Michigan-
There is a fairly comprehensive state wetland law under the Goemaere-Anderson Wetland Protection Act. Permits are required for most activities affecting wetlands. Notable permit exemptions are agricultural practices. Michigan is the only state in the Basin to assume control of its own 404 program through delegation from the EPA.

Minnesota-
No comprehensive wetlands law. Permits are required under section 105 of the statutes for activities affecting protected waters of the state and protected wetlands. Also by statute, the state requires shoreland zoning ordinances which protect wetlands. The Minnesota Waterbank and Reinvest in Minnesota programs provide compensation for not draining or for restoring wetlands.

New York-
There is a comprehensive state wetland law under the Freshwater Wetlands Act. Permits are required for most activities in wetlands greater than 12.4 acres. Notable permit exemptions include many agricultural activities. An Advisory Committee was set up in 1988 to assess the program and issued its findings in 1989. Legislation is currently pending to implement some of the recommendations.

Ohio-
No comprehensive wetlands legislation. Ohio relies primarily on the federal programs with a strong emphasis on its role in the 401 Water Quality Certifications as a means of protecting wetlands. Ohio is one of two states selected by FmHA to institute a conservation easement program under the 1985 Farm Bill.

Pennsylvania-
No comprehensive wetlands legislation. The state does have a permit program under the Dam Safety and Encroachment Act, which regulates activities related to dam construction, maintenance and all encroachments in bodies of water, including wetlands. Impacts to wetlands are addressed during the dam permitting process.

Wisconsin-
No comprehensive wetlands legislation. Permits are required under Chapters 30 and 31 of the statutes for activities related to alteration of watercourses and dam activities. Shoreland-Wetland and Floodplain zoning laws require the establishment of ordinances at the county level for all unincorporated areas (NR115) and for all cities and villages

(NR 117). The state is currently studying whether to apply for Section 404 delegation. Water quality standards for wetlands are in the adoption process.

Ontario -
No province in Canada has a specific regulatory framework for addressing wetlands. In 1989, the Ontario Ministers of Municipal Affairs and Natural Resources issued a draft wetlands policy statement under the Planning Act. Once passed, this policy will provide limited protection to wetlands through local zoning. It calls for consideration of all wetlands during the provincial planning process. Significant activities not addressed by the policy include agricultural draining, filling, and grading. The policy does not apply to wetlands less than 2 hectares in size. Provincial regulation of some activities which may impact wetlands occurs through Conservation Authorities (CA's), under the Conservation Authorities Act. District offices of the Ministry of Natural Resources can regulate activities under the Lakes and Rivers Improvement Act and the Public Lands Act. They can also exercise their power to enforce the Federal Fisheries Act. This enforcement responsibility was delegated by the federal government to the Ministry of Natural Resources.

3) QUESTIONNAIRE RESPONSES ON EXISTING PROGRAMS

ILLINOIS

Comprehensive Wetlands Legislation?: No.

Regulatory Program

1. Permit program: No permit program that is specific to wetlands. Chapter 19 of the state statutes, Sections 52 to 78, covers "Regulation of Rivers, Lakes, and Streams." Under this section, permits from the Department of Transportation are required for activities affecting the waters of the state. The Interagency Wetland Policy Act of 1989 addresses state agency activities that potentially affect wetlands. This new legislation introduces the goal of no net loss but is limited only to state agency activities. The potential for expansion of the legislation to public entities seems real.
2. Responsible Office and Contact Person: The Department of Conservation is probably the best direct contact for issues related to wetlands in Illinois.
   Mr. Marvin Hubbell
   Wetlands Administrator
   Illinois Department of Conservation
   524 S. Second Street
   Springfield, IL 62701-1787
   (217) 782-3715
3. Regulatory Definition of Wetland: No formal definition of wetlands in state legislation.
4. Wetlands Covered: Those affected by state activities and wetlands associated with public navigable waters.
5. Buffer or Transition Zone Requirements: No.
6. Activities Regulated: The Chapter 19 statutes (Section 65) includes regulation of fill and deposits associated with construction of structures in navigable waters.
7. Exemptions from Regulation: Not specified.
8. General Permits?: No.
9. Entities Subject to Permit Requirements: Any person engaging in activities affecting navigable waters of the state.
10. Application Fee: Not specified.
11. Evidentiary Burden for Permit Process: Not specified.
12. Standards for Granting a Permit: Not specified.
13. Compensation/Mitigation Requirements: None under the Chapter 19 program. The 1989 legislation provides for development of a Wetland Compensation Plan for agency activities that will impact a wetland.
14. Enforcement/Sanctions for Violations: None specified for wetlands.

Incentive/Disincentive Programs

1. State Incentive Programs: None specific to wetlands.
2. State Income Tax Provisions Regarding Wetland Protection: No.
3. Property Tax Incentives: No.
4. Wetland-for-Upland Exchange Programs: No.
5. Wetland Zoning Laws: No.

Drain Codes

1. State Drain Code?: The drainage laws are under Chapter 42 of the State statutes.
2. Drain Commission Authority to Tax?: Drainage districts assess the benefitting landowners on the property taxes.
3. Drain Commission Subject to Permit Program?: No.

INDIANA

Comprehensive Wetland Legislation?: No.

Regulatory Program

1. Permit program: State permits required under the Indiana Flood Control Act (FCA) (IC 13-2-22) and the Indiana Lake Preservation Statutes (LP) (IC 13-2-11.1) .
2. Responsible Office and Contact Person:
   Mr. Michael W. Neyer, Assistant Director
   IN Department of Natural Resources
   Division of Water
   2475 Directors Row
   Indianapolis, IN 46241
   317/232-4080
3. Regulatory Definition of Wetland: No state law definition. ACOE/FWS definition used.
4. Wetlands Covered: FCA- Wetlands within the 100-year floodway
   LP- Wetlands at or below the "waterline", the legally established high water line.
5. Buffer or Transition Zone Requirements: Not stipulated in the laws but may be required in a permit.
6. Activities Regulated: Any activity which is at or lakeward of the legal lake level.
   FCA (Section 13)- construction of structures, deposits and excavations in the floodway.
   LP (Section 3)- changing the level of water or the shoreline of a public freshwater lake by excavating or filling. Channeling through a shoreline is also regulated.
7. Exemptions from Regulation:
   FCA (Section 13)- reconstruction or maintenance projects on streams and drains in rural areas where the stream is less than 10 miles in length.
   LP- Any land bordering, or in Lake Michigan
8. General Permits?: IDNR Deputy Director has authority to permit seawall, utility crossing, and underwater beach construction. Currently in the process of establishing statewide and general permits for a variety of activities.
9. Entities Subject to Permit Requirements: All public and private entities
10. Application Fee: FCA- $50 LP- $25 However, these fees may be subject to change.
11. Evidentiary Burden for Permit Process: FCA- "permit only if the applicant has clearly proven that..." LP- Application must show where and what. IDNR must make determinations of benefits and potential impacts.
12. Standards for Granting a Permit:
    FCA (Section 13)- IDNR may grant permit if the project will not adversely affect the efficiency or capacity of the floodway, will not result in hazards to the public, and will not have detrimental effects on fish, wildlife or botanical resources.
    LP (Section 5)- IDNR "must investigate the merits" of the project to determine if the natural resources, scenic beauty, or contour of the lake below the water line is significantly affected.
13. Compensation/Mitigation Requirements: Some compensation required in all permits but is not specified by law. The priorities are in kind, on site, adjacent, off site. Amount of compensation varies from 1:1 to 10:1.
14. Enforcement/Sanctions for Violations:
    FCA (Section 13)- If no permit, Class C infraction. Each day of violation is a separate infraction. No stipulations for enforcement of permit conditions.
    LP (Section 13)- IDNR can bring court action for damages.
    LP (Section 14)- A person who violates this chapter commits a Class C infraction.

Incentive/Disincentive Programs

1. State Incentive Programs: IDNR determination of "Classified Wildlife Habitat" or "Classified Riparian Habitat" reduces assessed value to $1 per acre.
2. State Income Tax Provisions Regarding Wetland Protection: Wetland contributed or transferred by reduced price sale to the state are deductible from state and federal income taxes.

3. **Property Tax Incentives: see #1 above**
4. **Wetland-for-Upland Exchange Programs: No state programs.**
5. **Wetland Zoning Laws: Some communities have greenway laws, but no wetland zoning laws are known (except for City of Auburn).**

Drain Codes

1. **State Drain Code?: Drain Code in place circa 1920.**
2. **Drain Commission Authority to Tax?: Yes, if project is shown to have benefit to the landowner, and at least 3 owners in the watershed petition for the activity, the costs are spread out proportionally to everyone in the district.**
3. **Drain Commission Subject to Permit Program?: Are considered "person" under FCA and LP. However, see "exemptions" above.**

MICHIGAN

Comprehensive Wetland Legislation?: Yes, Goemaere-Anderson Wetland Protection Act, Public Act 203 of 1979.

Regulatory Program

1. Permit program: Permits required under Public Act 203.
2. Responsible Office and Contact Person:
   Mr. Steve Sadewasser
   Michigan Department of Natural Resources
   P.O. Box 30028
   Lansing, MI 48909
   517/335-2694
3. Regulatory Definition of Wetland: Section 2g: "Land characterized by the presence of water at a frequency and duration sufficient to support and that under normal circumstances does support vegetation or aquatic life and is commonly referred to as a bog, swamp, or marsh."
4. Wetlands Covered: Some covered currently and others to be covered once MDNR completes an inventory of the state's wetlands. Under 281.702 sec. 2g(i-iii): all wetlands contiguous to a stream or lake. "Contiguous" defined as having a permanent or seasonal surface water connection to a lake, pond or stream; or within 500' of the ordinary high water mark of inland water bodies or 1000'of a Great Lake or Lake St. Clair; or wetlands separated by barriers such as dikes, roads etc. Non-contiguous wetlands greater than 5 acres in size and in a county with population exceeding 100,000 are currently regulated and those in counties with population < 100,000 after the inventory is completed. Non-regulated wetlands can be included if DNR determines these meet special natural resource conditions set forth under 281.924 Rule 4 (3) of the Administrative Rules.
5. Buffer or Transition Zone Requirements: No buffer zones are provided for in the law.
6. Activities Regulated: 281.705- deposit of fill material, dredge or removal of soil or minerals, development, drainage of surface water
7. Exemptions from Regulation: 281.706- certain recreation uses; grazing of animals; farming, lumbering, and ranching including plowing, irrigation, irrigation ditching, seeding, cultivating, minor drainage and harvesting; drain maintenance; construction or maintenance of farm ponds; construction or maintenance of farm, forest or temporary roads; maintenance of existing roads and utility lines; construction of iron and copper tailings basins or water storage ponds.
8. General Permits?: 281.710- MDNR may issue general permits for 5 years for activities that have been determined to cause minimal adverse environmental effects. One must apply to be considered under a general permit. No public notice of general permits. The May 1, 1989 "General Permit for Minor Activities" includes: minor fills of 300 cubic yards or less of clean fill, construction or maintenance of waterbodies less than 5 acres if not connected to inland waterbodies and spoils deposited on upland site, boardwalks or elevated platforms, filling for walkways or footpaths, residences constructed on pilings, driveway construction.
9. Entities Subject to Permit Requirements: 281.702- "Person" is defined as all public and private entities.
10. Application Fee: 281.707-$25
11. Evidentiary Burden for Permit Process: 281.707- MDNR may require an environmental assessment with the application. 281.709- applicant must show that an "unacceptable disruption" to the aquatic resources will not result, and also either that the proposed activity is "primarily dependent upon being located in a wetland" or that a "feasible and prudent" alternative does not exist.

12. Standards for Granting a Permit: 281.709- in public interest, weigh project benefits against detrimental effects of the project, necessity of the proposed activity, findings of other state agencies, and what applicant must show as per #11 above.
13. Compensation/Mitigation Requirements: 281.710- MDNR may impose conditions on permit as mitigation. R281.925-No net loss of wetland resources; on-site is preferable; the MDNR will consider mitigation proposals of the applicant; only when no other feasible alternatives are available for the project, and only for unavoidable impacts that are otherwise permittable utilizing review criteria summarized in #11 and 12 above.
14. Enforcement/Sanctions for Violations: 281.714- Civil penalties up to $10,000 per day. Criminal penalties up to $2500 per day for violations, and up to $25,000 or 1 year imprisonment for reckless and willful violations. Subsequent violations are a felony and punishable by fines up to $50,000 per day and 2 years imprisonment.

Incentive/Disincentive Programs
1. State Incentive Programs: None specific to wetlands. There is a Conservation and Historic Preservation Easement Act 197 of 1980 and the Farmland and Open Space Preservation Act 116 of 1974, but these appear to be untested in their applicability to wetland preservation.
2. State Income Tax Provisions Regarding Wetland Protection: None.
3. Property Tax Incentives: Local Tax Assessor guidelines have no specifics for wetlands. Conservation easements are not binding to local tax assessors.
4. Wetland-for-Upland Exchange Programs: None.
5. Wetland Zoning Laws: None statewide. 1979 P.A. 203 authorizes municipalities to develop wetland ordinances that are as strict or stricter than the state program.

Drain Codes
1. State Drain Code?: Drain Code is Public Act 40 of 1956. Most counties have Drain Commissioners.
2. Drain Commission Authority to Tax?: Yes, taxes are liens on the property. Costs for construction and maintenance of drains are apportioned across all governments affected and the landowners benefitting.
3. Drain Commission Subject to Permit Program?: Based on precedent set in a Court of Appeals ruling regarding permits for drain commissions under the MDNR's Inland Lakes and Streams Act, the State Attorney General advises that drain commissions may not be subject to permits under this Act.

Other State Programs

Michigan has assumed jurisdiction over the federal 404 program. 1970 P.A. 245, the Shorelands Protection and Management Act, designates coastal environmental areas. 1980 P.A. 197, the Conservation and Historic Preservation Easement Act, authorizes voluntary easements.

MINNESOTA

Comprehensive Wetland Protection Law?: No.

Regulatory Program
1. Permit program: Protected waters permit program under section 103G of the statutes
2. Responsible Office and Contact Person:
   Mr. David Milles
   Division of Water
   Minnesota Department of Natural Resources
   PO Box 32
   500 Lafayette Road
   St. Paul, MN 55155
   612/296-0516
3. Regulatory Definition of Wetland: 103G.005(15)- defined as type 3,4,or 5 from FWS Circular 39 (1971).
4. Wetlands Covered: Designated type 3,4,5 wetlands which are greater than 10 acres in rural areas and greater than 2.5 acres in cities.
5. Buffer or Transition Zone Requirements: None stipulated in the law.
6. Activities Regulated: 103G.245-(6115 of Agency Rules)- Any work that will change or diminish the "course, current, or cross-section" of a watercourse or wetland. Draining, filling, dredging, channelizing, construction of dams, harbors,or permanent offshore structures, construction of bridges and culverts below the OHWM are all regulated.

7. **Exemptions from Regulation: 103G.245- Beach sand blankets, rip rap streams with watershed's less than 3200 acres, debris removal, repair of public drainage systems, docks and floating structures, boat ramps under specified dimensions and conditions. No state permit is required for Indian tribes, bands or communities for work occurring on a reservation (federal jurisdiction).**
8. **General Permits?: None specified in the law.**
9. Entities Subject to Permit Requirements: All public and private entities (except Indian tribes).
10. Application Fee: 103G.301(2)- application fee is $75. Up to $500 can be charged for certain projects. Applicant may also have to cover public hearing costs.
11. Evidentiary Burden for Permit Process: 103G.315- Applicant has burden for proving that the proposed project is reasonable, practical, and will adequately protect public safety and promote public welfare.
12. Standards for Granting a Permit: 103G.301 and 6115 of the Agency Rules provide guidelines for permit issuance. Lack of other feasible alternatives, potential impact to the waters of the state and the protection of public health, safety, and welfare must be considered.
13. Compensation/Mitigation Requirements: 103G.251- Orders to restore impacts if no permit. 103G.221- Permit authorizing drainage requires replacement with wetlands of equal or greater value.
14. Enforcement/Sanctions for Violations: 103G.141- Violations of this statute constitutes a misdemeanor.

Incentive/Disincentive Programs
1. State Incentive Programs: Reinvest in Minnesota Program (RIM) gives payments for retiring unsuitable agricultural land, including restoring wetlands, for altered wetlands that were changed for cropping purposes prior to 12/23/85.
2. State Income Tax Provisions Regarding Wetland Protection: None.
3. Property Tax Incentives: County gives tax exemption for qualifying wetlands.
4. Wetland-for-Upland Exchange Programs: Some upland areas may also be enrolled in the RIM programs.
5. Wetland Zoning Laws: 103F.201(6120 of the Rules)- Established model ordinance and minimum requirements for shoreland and floodplain zoning at the county and city levels. 85 counties and 100 cities have shoreland zoning ordinances, which apply to all land within 1000' of a protected wetland and within 300' of a protected watercourse. DNR has established land use classifications to be used in the ordinances.

Drain Codes
1. State Drain Code?: The old drainage laws were recodified as 103E.
2. Drain Commission Authority to Tax?: Yes.
3. Drain Commission Subject to Permit Program?: Regulations for improvement and construction of drains are included in A106. Permits may be required under 103G if the drain will affect a protected water or wetland.

Other State Wetland Programs

Minnesota Waterbank Program- Allows for state compensation to landowners denied permits under section 103G. Owners of "protected" or "qualifying" wetlands are compensated for not converting wetlands to cropland. If a permit for drainage is denied, the state must offer to purchase, to acquire a permanent easement, or to acquire a limited duration easement and so compensate the land owner.

NEW YORK

Comprehensive Wetland Legislation?: Yes, Freshwater Wetlands Act of 1975.

Regulatory Program
1. Permit program: Article 24 of the Environmental Conservation Law (ECL) which is NYCRR Part 663. Part 664 includes mapping provisions. Part 665 includes provisions for delegation of authority to local entities.
2. Responsible Office and Contact Person:
   Ms. Patricia Riexinger
   New York Department of Environmental Conservation
   50 Wolf Road
   Albany, NY 12233
   518/457-9713
3. Regulatory Definition of Wetland: 664.2f- Lands and waters of the state that meet 24-0107(1) and are at least 12.4 acres or are important locally. 24-0107 defines wetlands as "lands and submerged lands commonly

called marshes, swamps, sloughs, bogs or flats that support aquatic or semi-aquatic vegetation..." of a number of types which are listed in the law with specific examples of plant species. The law makes reference to hydrologic conditions, but is essentially vegetation-based. Delineation of boundaries is primarily based on vegetation.

4. Wetlands Covered: Wetlands greater than 12.4 acres in size; Wetlands of unusual local significance under 664.7; and Class 1 wetlands which are near a water body used primarily for water supply.
5. Buffer or Transition Zone Requirements: 663.2-100 foot "adjacent areas" are regulated under the permit program. Under 24-0701.2 the buffer zone can be extended if "necessary to protect the wetland." DEC has limited input during platting activities for subdivisions which may pre-empt ability to extend the buffer.
6. Activities Regulated: 663.4- Any activities not specifically exempted or activities under 663.3, 663.4d and 663.7.
7. Exemptions from Regulation: 663.2- Nature preserves, certain recreation activities, deposit and removal of natural products (fish, agriculture), education and research, establishment of walking trails, gathering fuelwood, and agricultural activities including: draining, clear-cutting of vegetation other than trees, use of fertilizer and pesticides on crops grown in the wetland, livestock watering, structures and fences for agricultural purposes, winter roads, and selective tree cutting. There is also a provision for grandfathering of activities existing or approved prior to passage of law (1975).
8. General Permits?: No.
9. Entities Subject to Permit Requirements: 663.2w-"Persons" are all public and private entities.
10. Application Fee: Set forth under the Uniform Procedures Act. Application fees range from $10 to $50 depending on project scope.
11. Evidentiary Burden for Permit Process: 663.5- "Burden for showing" compliance rests entirely on applicant.
12. Standards for Granting a Permit: 663.5e- Compatibility with the preservation, protection and conservation of the wetland and its benefits; compatibility with public health and welfare; and no more than insubstantial degradation to or loss of any part of the wetland. Weighing based on the quality of the wetland (Class 1 through 4). If the compatibility rules are not met, a permit may be issued if: for a Class 1,2,3,or 4 the project is the only "practicable alternative" for the proposed objectives and no upland alternative is available; for a Class 1,2, or 3 there must be "minimal" degradation of the wetland benefits and functions; and for Class 4 a "reasonable effort" be made to minimize degradation.
13. Compensation/Mitigation Requirements: 663.5g- DEC "may suggest" that the applicant propose mitigation in order to meet criteria for permit issuance. Currently no rules or guidelines on how to determine mitigation requirements.
14. Enforcement/Sanctions for Violations: The 1975 Act set the maximum civil penalty at $300 and the maximum criminal penalty at $1000 ($2000 for second offense). No current guidelines for penalty assessment. Enforcement and penalties vary by region of the state. Article 71 (71-2303) includes a provision that a violator must restore an injured resource.

Incentive/Disincentive Programs

1. State Incentive Programs: Article 24 includes provisions for cooperative agreements with landowners for preserving lands. However, due to staff shortages this provision is not used.
2. State Income Tax Provisions Regarding Wetland Protection: None.
3. Property Tax Incentives: Tax assessment is locally determined with no state requirements to consider conservation easements, etc. DEC has developed a brochure for local tax assessors regarding property tax credits for decreased property use due to permit denials.
4. Wetland-for-Upland Exchange Programs: None.
5. Wetland Zoning Laws: None.

Drain Codes

1. State Drain Code?: Unclear whether there is a Drain Law or not. Most counties do not have drainage commissions There is some state cost sharing for drainage outlet construction ($250,000/yr). Some local governments have drainage programs which use these funds.

OHIO

Comprehensive Wetland Legislation?: No. A draft bill is under consideration.

Regulatory Program

1. Permit program: No state program. ODNR provides input to 404 permits and 401 Water Quality Certifica-

tion. Since there is no state permit program the remaining questions in this section are not answered. All applicable federal regulations and definitions pertain. Ohio's primary tool for wetlands protection and regulation is the 401 Certification program.

2. Responsible Office and Contact Person:
   Michael J. Colvin, Administrator
   Environmental Review Section
   Office of Outdoor Recreation Services
   Ohio DNR
   Fountain Square
   Columbus,OH 43224
   614/265-6413

Incentive/Disincentive Programs

1. State Incentive Programs: Ohio is one of two states selected by FmHA to administer a conservation easement program for wetlands under the 1985 Farm Bill. No state programs.
2. State Income Tax Provisions Regarding Wetland Protection: None.
3. Property Tax Incentives: None.
4. Wetland-for-Upland Exchange Programs: None.
5. Wetland Zoning Laws: None.

Drain Codes

1. State Drain Code?: The drain code is under Section 6131 of the Ohio Revised Code.
2. Drain Commission Authority to Tax?: Payments for ditch improvements are included in the property taxes and is split between all benefitting landowners.
3. Drain Commission Subject to Permit Program?: N/A

Other State Wetland Programs

ODNR has issued a policy statement "to affirm departmental policy to protect, restore and create wetland ecosystems...." This statement refers to a policy of ensuring wetlands are considered in the environmental review of state and federally assisted projects under state jurisdiction. Ohio also attempts to use LAWCON funds for wetland acquisition. It appears that only the wetlands under federal jurisdiction are somewhat protected. Under Chapter 3745-1-05 of the OAC(Anti-Degradation Policy), the OEPA may have influence in protecting wetlands as "state resource waters."

A statewide wetlands inventory is underway, in conjunction with the Soil Conservation Service. The survey should be completed by the end of 1991.

PENNSYLVANIA

Comprehensive Wetland Legislation?: No.

Regulatory Program

1. Permit program: Permits required under the Dam Safety and Encroachments Act (Chapter 105 of the statutes).
2. Responsible Office and Contact Person:
   Mr. Roger Fickes, Chief
   Division of Rivers and Wetlands Conservation
   Department of Environmental Resources
   Evangelical Press Bldg.
   Third and Reilly Street
   PO Box 1467
   Harrisburg, PA
   717/787-6816
3. Regulatory Definition of Wetland: 105.1- "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions..."
4. Wetlands Covered: All wetlands affected by a project that requires a permit under the Act.
5. Buffer or Transition Zone Requirements: 105.17b- A 300' transition zone is stipulated for work in or around

"important wetlands", unless the benefits outweigh the damage to the wetland. "Important" is defined in 105.17 as wetlands that: serve important natural biological functions; are set aside as study areas or refuges; if destroyed or altered would affect natural drainage patterns; are significant for erosion prevention; store flood waters; are prime recharge areas for groundwater.

6. Activities Regulated: Construction, operation, maintenance, modification or enlargement of any dam, reservoir, water obstruction or encroachment. Discharge of dredged or fill material and encroachment into a wetland are regulated.
7. Exemptions from Regulation: 105.12- Dams for "creating a pool for fish and fishing purposes" that do not exceed 3' in height in a stream that is less than 50' wide; water obstructions in a stream with a drainage area less than 320 acres if DER determines insignificant impact to safety, property, or the environment; aerial crossings for utilities; dams subject to Mine Safety laws: and existing structures for which construction began prior to 7/1/79.
8. General Permits?: 105.442- General permits may be issued on a Statewide basis or limited to certain watersheds, certain categories of streams or designated geographic areas. No application for a permit is required for activities covered by general permit. Most of the existing general permits do not apply in wetlands except BDWM-GP-5 (Utility line stream crossings) which applies in wetlands less than 10 acres in size that are not considered "important" under 105.17.
9. Entities Subject to Permit Requirements: 105.1- "Person" defined as all public and private entities.
10. Application Fee: 105.13- Fees are based on the scope of the project and range from $50 for smaller encroachments and obstructions to $200 for a Class A dam.
11. Evidentiary Burden for Permit Process: 105.15- For certain activities an environmental assessment is required with the application. 105.16c- No permit will be issued "unless the applicant demonstrates... that the project will have no significant adverse impact upon the public natural resources...." 105.17c- " The applicant must provide sufficient information on the need to locate the proposed activity in the [important] wetland...and must provide data on the basis of which the availability of feasible alternative sites can be evaluated."
12. Standards for Granting a Permit: 105.16- "Environmental, social, and economic balancing" 105.17- For "important" wetlands, the weighing of public benefits related to expected damages, lack of other feasible alternatives, and potential for "cumulative effects" of "piecemeal changes" to wetland resources must be considered. 105.21- Project will adequately protect public health, safety and the environment and is consistent with the environmental rights and values secured by the Commonwealth in its capacity as trustee for the public in maintenance of natural resources.
13. Compensation/Mitigation Requirements: 105.16a- DER will consult with the applicant to examine ways to "reduce the environmental harm to a minimum." 105.17e- For "important " wetlands, mitigation "of a form approved by the Department will be provided by the applicant for any adverse impacts."
14. Enforcement/Sanctions for Violations: Sections 20 and 21 of the Act- DER may issue orders for violations. Civil penalties not to exceed $10,000, plus $500 per day of continued violation. Section 22- Criminal penalties are from $100 to $1000 fines or less than 60 days imprisonment. A second offense within two years of a prior conviction carries penalties of between $500 and $5000 in fines and/or a maximum imprisonment of one year. Each day of continued violation is considered a separate offense. Section 26- Established the Dams and Encroachments Fund for the collection of all fines under the Act for use in protecting the Commonwealth from unsafe activities related to this Act that affect humans and the environment.

Incentive/Disincentive Programs

1. State Incentive Programs: None.
2. State Income Tax Provisions Regarding Wetland Protection: None.
3. Property Tax Incentives: None.
4. Wetland-for-Upland Exchange Programs: None.
5. Wetland Zoning Laws: Recent changes to the State's municipalities planning act enables municipalities to develop zoning based on wetlands protection. Only a few communities have enacted such ordinances. Some municipalities have employed Transfer of Development Rights to protect wetlands and other open space.

Drain Codes

1. State Drain Code?: No. Drainage tile construction must meet SCS standards.

WISCONSIN

Comprehensive Wetland Legislation?:No.

Regulatory Program

1. Permit program: Permits are required under Chapters 30 and 31 of the state statutes.
2. Responsible Office and Contact Person:
   Mr. Robert W. Roden, Director
   Bureau of Water Regulation and Zoning
   Wisconsin Department of Natural Resources
   PO Box 7921
   Madison, WI 53707
   608/266-8034
   or Scott Hausmann
   Chief, Water Regulations Section
   608-266-7360
3. Regulatory Definition of Wetland: 23.32(1)- "Area where water is at, near or above the land surface long enough to support aquatic or hydrophytic vegetation, and which has soils indicative of wet conditions."
4. Wetlands Covered: All wetlands contiguous to navigable waters and below the "Ordinary High Water Mark" (OHWM).
5. Buffer or Transition Zone Requirements: No specific regulations.
6. Activities Regulated: 30.12- Deposit material or placement of a structure in navigable waters. 30.19- Construct, dredge or enlarge any artificial waterway, canal, ditch, lagoon, pond or lake connected to or within 500' of the OHWM of a navigable water. 30.195- Altering a stream channel or changing a stream course. 30.20 Removal of materials. Chapter 31- Creation, alteration or removal of dams; diversion of water for agriculture.
7. Exemptions from Regulation: 30.12(4)- DOT exempt from permit requirement. 30.122- Grandfathers permanent alterations and structures built before 12/9/77. 30.123- Municipal bridge construction and maintenance if conducted per administrative standards. 30.19(1m)- Construction or repair of highways; any agricultural uses of land; construction affecting Great Lakes or any inland lake located wholly or partly in a County with population > 750,000.
8. General Permits?: 30.206-Limited to riprap, fords, and unconnected ponds.
9. Entities Subject to Permit Requirements: All public and private entities, unless specified.
10. Application Fee: Fees are based on estimated project costs and are listed in 30.28 and 31.39. For Ch. 30 fees range from $15 for projects costing less than $500 to $75 for projects costing more than $10,000. Under Ch. 31 the fees range from $5 for projects less than $500 to $65 for those greater than $10,000.
11. Evidentiary Burden for Permit Process: Not specifically stated. Appears applicant must provide the where and what only.
12. Standards for Granting a Permit: 30.12(2)- Permit granted if the project does not materially obstruct navigation or reduce effective flood capacity and is not detrimental to the public interest. 30.19(4)- Permit granted if project will not injure public rights or interest, including fish and game habitat, and if project will not cause environmental pollution. 30.19(5)- Will not adversely affect the flood flow capacity, be detrimental to public rights, or rights of other riparians. 30.20- Permit granted if project consistent with public interest in water involved.
13. Compensation/Mitigation Requirements: None specified by law.
14. Enforcement/Sanctions for Violations: 30.298- $100-$10,000 first offense, $500-$1000 second offense

Incentive/Disincentive Programs

1. State Incentive Programs: 700.40- The Uniform Conservation Easement Act may provide the framework for allowing conservation easements for wetland preservation.
2. State Income Tax Provisions Regarding Wetland Protection: None.
3. Property Tax Incentives: None.
4. Wetland-for-Upland Exchange Programs: None.
5. Wetland Zoning Laws: NR115- Shoreland Zoning required for all unincorporated areas of each county. The regulations require each county to include zoning for shorelands (lands within 1000' of a navigable lake, pond or flowage, and lands within 300, of a navigable river or stream) in its county zoning plan. NR117- Extended the shoreland zoning requirements to cities and villages. Both of the shoreland-wetland zoning laws set minimum requirements for activities to be regulated in the wetland. Local zoning ordinances can

be stricter. The State provided model ordinances.

Drain Codes

1. State Drain Code?: Chapter 88 of the Wis. Statutes.
2. Drain Commission Authority to Tax?: Recommendations regarding expenditures and tax collection must be approved by the County Judge.
3. Drain Commission Subject to Permit Program?: If a proposed drainage ditch construction or improvement involves a navigable water then a Chapter 30 permit is required. Under 30.10 a drainage ditch is not considered a navigable water.

Other State Wetland Programs

Under NR 1.95 a state policy defines that wetland protection is in the public interest.

Chapter 29.415- The state endangered and threatened species regulations prohibit destruction of habitat harboring state endangered and threatened species by projects receiving state and/or federal funding.

NR180.13(3)- Under the Solid Waste Liscensing Program, siting of disposal facilities is prohibited in wetlands.

Chapter 147- Under the WI Pollution Discharge Elimination System, the levels of pollutants entering the waters of the state, including wetlands, are regulated.

ONTARIO

Comprehensive Wetlands Legislation?: No.

Regulatory Program

1. Permit program: Permits are required under the Lakes and Rivers Improvement Act (LRIA), Chapter 229 of the Revised Statutes of Ontario, and the Public Lands Act (PLA), Chapter 380. Permits may also be issued for activities regulated by local Conservation Authorities (CA's) under the Conservation Authorities Act.
2. Responsible Office and Contact Person: There are 38 CA's organized on a watershed basis and 48 District offices of the Ministry of Natural Resources (MNR).
3. Regulatory Definition of Wetland: There is no regulatory definition of a wetland, although one is proposed in the draft wetland planning policy.
4. Wetlands Covered: The MNR programs include wetlands as delineated by the agency. This includes most wetlands greater than 2 hectares, located in the southern portion of Ontario. Boundaries are based on soils and vegetation. The LRIA affects wetlands that are potentially impacted by dam or timber floating activities. In this case, dam refers to any work involving forwarding, holding back, or diverting water. The PLA affects wetlands associated with public navigable waters. The CA provisions require the individual CA's to delineate hazard lands, namely floodplains and floodways (that may include wetlands), on maps that provide a legal basis for regulation.
5. Buffer or Transition Zone Requirements: No specific regulations. Some CA's include a minimum buffer of 25 to 50'.
6. Activities Regulated: CA (section 27)- activities affecting the floodplain or hazard lands as identified by the local CA, including altering water levels, changing channels, dredging, filling and construction of any structures. LRIA- dredge and fill activities associated with forwarding, holding back, or diverting water, and timber floating. PLA- dredging and filling of shorelands of navigable waters.
7. Exemptions from Regulation: None specified.
8. General Permits: No. Under the Environmental Assessment Act, however, agricultural activities are exempted from EA review and other activities such as road and sewer construction fall under the category of "class EA's." Class EA's cover a range of provincial and municipal projects which occur frequently and have a predictable range of relatively minor effects on the environment.
9. Entities Subject to Permit Requirements: All public and private entities.
10. Application Fee: Fees may be required for some CA's.
11. Evidentiary Burden for Permit Process: Not specifically stated.
12. Standards for Granting a Permit: CA- individual CA's have their own standards. CA staff review the proposed plans for potential impact on hazard lands. MNR- individual districts have their own standards for permit approvals under LRIA and PLA
13. Compensation/Mitigation Requirements: None specified by law. MNR or CA staff may negotiate permit conditions.
14. Enforcement/Sanctions for Violations: CA (section 27-3 and 4)- violation of a permit or acting w/o a permit

is guilty of an offense with penalties of a fine less than $1000 or imprisonment up to 3 months. LRIA (section 20)- dam construction in contravention to the Act can be subject to a fine up to $500, with an additional $10 per day of continued violation. PLA (section 13a)- violation of a permit or failure to obtain a permit can result in fines up to $5000, with an additional fine up to $200 for each additional day of violation, and orders to remove or replace fill or dredge material. Federal Fisheries Act, Section 40(1)- (enforced by the province) with conviction for harmful alteration, disruption, or destruction of fish habitat, a fine up to $5000 for first offense, and not exceeding $10,000 for each subsequent offense, or conviction or indictment to up to 2 years imprisonment. Section 40(2)- anyone guilty of unauthorized deposition of deleterious material may be fined up to $50,000 for first offense and not exceeding $100,000 for each subsequent offense.

Incentive/Disincentive Programs

1. Provincial Incentive Programs: Donations of conservation areas can occur via outright donation, with reserved life estate, by devise (will), bargain sale or on condition. Federal and provincial income tax credits are available for land donations. There appear to be no specific programs for wetland donation.
2. Income Tax Incentives: No information collected.
3. Property Tax Incentives: The Conservation Land Tax Reduction Program, under the Conservation Lands Act of 1988, provides for a 100% property tax rebate for landowners of property classified by the MNR as significant wetland (either provincially or regionally), as well as for certain other natural area delineations. This program provides for such a rebate (funded by the province) for landowners willing to enter an agreement to keep the land natural in perpetuity and to allow MNR access to the land. Similar provisions are included under the Forest Act, Forest Tax Reduction Program.
4. Wetland-for-Upland Exchange Programs: None.
5. Wetland Zoning Laws: No specific wetlands zoning provisions. Localities have the option to include protection of wetlands in planning and zoning.
6. Other Programs: Ontario has become quite active in private stewardship programs including providing information, stewardship agreements, management agreements, conservation easements, leasing of lands, outright donation, and covenants. The Community Wildlife Involvement Program and the Community Fisheries Involvement Program encourage restoration and enhancement of habitat by volunteers and community action. Funding up to $3000 and MNR technical assistance is available for such community projects.

4) SUMMARY

The preceding comparison indicates that state and provincial wetland regulation is complex, disjointed, and incomplete. Only two of the seven states have comprehensive legislation that specifically pertains to wetlands (MI,NY). The other states and the province of Ontario use a series of sometimes overlapping laws and regulations for wetlands protection. Most state permit programs fall under other water laws or pertain to limited areas of impact to wetlands.

The analysis that follows compares the state programs that currently exist with the overall standards for wetland regulatory programs recommended in Section III C(1) of the report (Recommendations 23 through 30).

1) Expansion of activities regulated. Most of the state permit programs are related to navigable waters and potential impacts to wetlands via activities in those areas. Many programs exempt agricultural activities, especially the removal of vegetation and some draining which contribute greatly to wetlands destruction. Since each state regulates a different set of activities in wetlands, basin-wide standards for regulated activities should be adopted for consistency.
2) Expansion of existing programs to cover all wetlands and adequate buffer areas. The existing programs are very limited in the wetlands covered, often limiting jurisdiction to navigable waters or those in the floodway. Size restrictions such as the 12.4 acre size restriction for NY must be changed to allow for regulation of all wetlands. Surrounding land uses must also be considered in the regulation of wetlands. By their very nature, wetlands are dynamic systems which occur on a continuum from upland to open water. Thus, activities on adjacent land areas may have direct effects on the wetland. Regulation must consider buffers sufficient to protect the natural functions and values of the wetland. Only NY and PA have any mention of buffers in the existing law, but both of these stipulations are limited in scope and effectiveness.
3) Use of a common definition of wetlands. The definition of wetlands at 33 CFR 328.3(b) is: "Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances, do support a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas."

This definition is followed closely by IN, MI, and PA. WI uses a definition similar to this with an additional statement concerning the presence of hydric soils. NY uses a definition that is solely vegetation based. OH does not have a state definition, nor does ONT. A basin-wide agreement on the definition to be employed should be sought for consistency. The Consortium supports adoption of the U.S. federal definition because it includes the important factors of vegetation, soil, and water, and has been adopted by the U.S. federal agencies. The various programs differ substantially with regard to which wetlands are jurisdictional.

IL- wetlands affected by state agency projects and those associated with navigable waters
IN- near lakes and in floodway
MI- contiguous with waterbodies, non-contiguous if > 5 acres
MN- below the OHWM of protected waters, zoning ordinances must regulate activities within 1000' of lakes and within 300' of streams
NY- > 12.4 acres and important wetlands
OH- No state program, only those under fed. jurisdiction (associated with fed. navigable waters)
PA- all wetlands
WI- below the OHWM of navigable waters, zoning ordinances must regulate activities within 100' of lakes and 300' of streams
ONT- associated with the floodway and associated with navigable waters

4) Evaluation of cumulative effects of alterations during the permit process. MI requires the consideration of cumulative impacts in individual permit decisions. The state does not compile records of permits issued in a manner that allows an assessment of cumulative effects on a watershed or wetland. PA makes reference to cumulative impacts, but this is only in relation to "important" wetlands.
5) Financial and evidentiary burden on the applicant for a permit. The application fees in existing programs range from $75 in WI to no fee in Ontario. These small fees do not approach the actual costs associated with agency processing applications and issuing/denying permits. Applicants must be forced to cover a larger portion of the costs. The fees must be commensurate with the level of work that is needed for each application. No analysis of evidentiary burdens was conducted.
6) Permit standards that first avoid impact and require compensation for unavoidable impacts. With the exception of NY, the specific standards for issuance of a permit are very general references to maintaining the public health, safety, and welfare or accounting for the impacts to the natural environment. NY defines a procedure of avoiding impacts to wetlands and permitting if the activity is "compatible" with the wetland. None of the states in the basin have specific requirements for mitigation. Most of the programs include provisions whereby mitigation can be suggested or approved. Only Michigan's administrative rules establish standards for what constitutes an adequate mitigation plan. No program specifies when a mitigation project is complete, what monitoring should be conducted, or what enforcement can be undertaken when requirements are not followed. Mitigation standards should be agreed upon at a basin-wide level and made public. To date such standards have not been established and there is much disagreement concerning how to restore a wetland and what constitutes a successful restoration.
7) Jurisdiction over all public and private entities. Most of the state programs define persons subject to the program as all public and private entities. The IL wetlands law only applies to activities of state agencies. Previous decisions of the MI Attorney General indicate that county drain commissioners may not be subject to state permits. WI law includes exemptions for the state DOT and for some activities carried out by municipalities. All state programs must regulate the activities of all public and private entities to provide comprehensive wetlands protection in the basin.
8) Enforcement provisions. Enforcement activities are grossly understaffed, primarily due to limited funding. In many cases, the costs of lost wetlands due to human alteration is not commensurate with the minor costs associated with fines for violations. Greater fines and penalties must be instituted to deter violations. The fines garnered should be returned to a fund earmarked to pay for enforcement personnel and acquisition programs. The existing programs provide for a range of penalties from $300 (NY) to $10,000 (MI) for first offenses. Some states provide for imprisonment from no more than 3 months (ONT) to no more than 1 year (MI). Only PA has a fund to receive fines and use for enforcement activities (Dam Safety and Encroachment Fund).

From the above information and discussion it is obvious that the regulatory programs in the basin are inadequate to stop the continuing losses of wetlands in the Great Lakes Basin. To consistently protect wetlands across all the states and provinces in the basin, each should enact comprehensive legislation that consolidates its wetland programs.

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NOTES:

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If you are interested in receiving more information pertaining to wetland issues in the Great Lakes Basin, have questions regarding this report, or would like to help work toward implementing the Consortium's recommendations, please feel free to contact one of the consortium members listed directly above.

The Great Lakes Wetlands Policy Consortium was initiated by the Tip of the Mitt Watershed Council to provide the financial and structural support for the development of a Great Lakes basin-wide wetlands policy. The Consortium is funded by a grant from the Charles Stewart Mott Foundation.

The Tip of the Mitt Watershed Council is a nonprofit corporation whose purpose is the protection of water quality and the promotion of the wise use of water resources. The Watershed Council promotes these goals through education, water quality monitoring, and support for sound environmental policy.

For more information concerning Watershed Council activities, please call or write:

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PRESERVING GREAT LAKES WETLANDS:
AN ENVIRONMENTAL AGENDA

A SUMMARY OF THE FINAL REPORT OF
THE GREAT LAKES WETLANDS POLICY CONSORTIUM

An International Consortium of Environmental
and Conservation Organizations

Stephen Brown
Project Coordinator

1990

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PRESERVING GREAT LAKES WETLANDS:

AN ENVIRONMENTAL AGENDA

PART ONE:

Background Information

Organizational Members and Their Representatives

This report was prepared by representatives of the following organizations, all of which share a strong interest and commitment to preserving the many values of Great Lakes wetlands, and are engaged in programs to implement the recommendations herein:

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Bill Horvath, of the National Association of Conservation Districts; Jan Goldman Carter, of the National Wildlife Federation; Kathyrn Hohmann, of the Sierra Club; Leah Haygood, of the Conservation Foundation; Leonard Corin, of the United States Fish and Wildlife Service, and many other staff people with the participating organizations, served as technical experts during the process of drafting the report.

Background Information

The Great Lakes Wetlands Policy Consortium is an international group which includes the major United States and Canadian environmental and conservation organizations active in wetlands issues in the Great Lakes Basin. The group met during a two year period to develop wetland policy recommendations for the Great Lakes region. Wetland policy within the Basin is complex, and rapidly changing. For this reason, the official positions of some of the participating organizations may differ slightly from some of the recommendations in the report.

This summary of the final report contains the vision statement of the Consortium, a look at the current status of wetlands in the Great Lakes Basin, the recommendations in the full report, and a statement of the efforts underway to implement these recommendations.

The recommendations contained in this report were developed specifically for the Great Lakes region, and are intended to apply to the jurisdictions of the political units within the Basin, including the eight Great Lakes states and Ontario. The Consortium intends these recommendations to apply to all wetlands within this area, including coastal wetlands along the Great Lakes shorelines, as well as inland wetlands.

Most of the recommendations in the report are also applicable to the upper St. Lawrence River Basin in New York state, Ontario, and parts of Quebec. In addition, many of the recommendations on federal policy would be applicable in protecting wetlands outside of the Great Lakes Basin.

Vision Statement

The Great Lakes ecosystem is critical to the physical and economic well-being of all who live in the Great Lakes Basin or depend on its products and services. Wetlands protect the health of this great ecosystem by improving water quality, supporting the productivity of fisheries, providing habitat for wildlife, and preventing damage from floods and erosion.

Because of the essential link between wetlands and the vitality of the Great Lakes ecosystem, immediate action is necessary to increase the quality and quantity of the Basin's wetlands. To meet this goal, everyone who lives or works in the Basin, and all of the governments whose actions affect the Basin, must take responsibility for protecting and restoring its vital wetland resources.

The Current Status

The wetlands of the Great Lakes Basin are a vital regional resource. They provide a wide range of important values to the residents of the Basin, and are essential to the functioning of the Great Lakes ecosystem. Wetlands provide vital habitat for the fish and wildlife populations of the region. They protect the water quality of lakes and streams by filtering nutrients and pollutants, which makes them critical in our fight for improved water quality and recreational opportunities. Wetlands also play an important role in minimizing damage from flooding and erosion. The region simply cannot afford to lose the economic gains that result from these wetland functions.

Wetland quantity and quality have dramatically declined since the arrival of the European settlers in the Great Lakes region in the late 1700's. It is difficult to judge the extent of wetland loss since settlement because there is no definitive baseline data to compare with more current figures. But the losses recorded in states and provinces where data exists have been substantial. In areas of southern Ontario, for example, the conversion of wetlands to other uses has exceeded 80% of the original acreage. In Michigan, wetlands have been reduced by up to 70%. For the Great Lakes region as a whole, only about 30% of the original wetlands remain intact.

Protecting this resource is necessary to maintaining a healthy ecosystem and will require a coordinated effort on the part of all levels of government as well as the private and non-profit sectors. The absence of coordination in the past has resulted in irretrievable losses to the Basin's wetland resources. Our remaining wetlands are critical to the protection of the Great Lakes ecosystem. Protecting our wetland resources will require coordinated planning efforts, increased incentives for preservation, improved regulatory programs and better enforcement, expanded restoration efforts, applied research and management to reduce detrimental impacts, increased acquisition of wetlands, and improved educational outreach.

The following recommendations are directed toward achieving better stewardship of wetlands in the Great Lakes region. They include recommendations to set policy and goals, to inventory and monitor, and to protect and restore wetlands. If these recommendations are implemented, the region will reap significant benefits in the long term.

The Consortium urges public agencies to have the vision and courage to take these needed steps, and urges non-governmental organizations to work diligently toward the protection of wetlands for conservation values.

Protecting wetlands is not a short term expense--it is a long term investment.

PART TWO:

Areas of Opportunity: Recommendations of the Consortium

SECTION A:

Improving Regional Coordination and Planning

Federal policy, state and provincial planning and management, and county, township, and municipal land use decisions together contribute to the maintenance or destruction of wetlands. Often these government actions are taken without adequately assessing the full range of wetland values. Unfortunately, many decisions are made with an eye only to short-term values, and often these values are exclusively economic ones. Non-governmental organizations play a key role in monitoring and reinforcing the actions of government and the private sector.

Wetlands are not unused lands awaiting a higher and better use; rather, wetlands are essential components of the Great Lakes ecosystem. Non-governmental organizations must communicate this fact to members of the public, stir them to action, and keep them motivated.

Section A-1: International Recommendations

Recommendation 1

The agencies and organizations responsible for implementing the Great Lakes Water Quality Agreement (GLWQA), the Great Lakes Fisheries Convention, the Migratory Birds Convention, the North American Waterfowl Management Plan, and for controlling Great Lakes water levels must integrate their respective activities and plans which affect the protection and management of wetlands.

Recommendation 2

The Great Lakes Water Quality Agreement (GLWQA) should be utilized to protect wetlands. The United States and Canadian federal governments should initiate activities necessary to fulfill their obligation for wetland protection pursuant to Annex 7 and Annex 13 of the existing Agreement. When the GLWQA is next reviewed by both governments, a new Annex dealing specifically with wetlands should be added.

Section A-2: Recommendations for Provinces, States, and Local Governments

Recommendation 3

The Great Lakes provinces and states should adopt Basin-wide principles for wetland conservation and restoration, as they have done for water supply (the Great Lakes Charter) and toxic substances (the Toxic Substances Control Agreement).

Recommendation 4

Each province and state should prepare comprehensive wetlands plans and enact the legislation and regulation needed to implement the Basin-wide wetlands principles recommended above.

Recommendation 5

The states and provinces should include wetland specialists in Remedial Action Plan (RAP) development teams and encourage wetland protection and restoration in the goals, recommendations, and remedial measures for each area of concern identified by the International Joint Commission.

Recommendation 6

Each local government should review wetland inventories in its jurisdiction and prepare plans and zoning ordinances to protect its wetlands from conversion and from the adverse effects of adjoining land use. Local wetland conservation plans should be consistent with the wetlands plan of the province or state.

Section A-3: Recommendations for Non-Governmental Agencies

Recommendation 7

A network of concerned organizations should be established to coordinate Basin-wide initiatives and to build and carry momentum for wetland protection.

Recommendation 8

Non-governmental organizations should launch a Basin-wide wetlands stewardship program, and assume a leadership role in orchestrating a proactive, coordinated approach to increasing the quality and quantity of Great Lakes wetlands.

SECTION B:
Increasing Incentives for Preservation

The goal of increasing the wetland resources of the Great Lakes cannot be met by government alone. Everyone in the Great Lakes Basin must do whatever is possible to preserve and increase its wetland resource base. Government can, however, encourage private stewardship by creating economic and other kinds of incentives for private conservation of wetlands.

Section B-1: Direct and Indirect Payments

Recommendation 9
Existing programs offering direct payments to landowners who protect and enhance wetlands should be expanded.

Recommendation 10
All levels of government should require permanent easements on wetlands in exchange for direct payment under incentive programs.

Recommendation 11
State, provincial, and local governments should develop or expand programs to purchase development rights and recreational rights for wetlands and adjacent buffer areas.

Recommendation 12
Where appropriate, due to higher land values, governmental entities should develop separate acquisition programs for urban wetlands.

Section B-2: Income and Property Tax Incentives

Recommendation 13
All levels of government should provide property tax relief to landowners who protect wetlands.

Recommendation 14
States and provinces should develop Managed Wetlands Acts, similar to existing forest management acts, that pay part of the local property taxes on wetlands that are preserved and managed by private landowners.

Section B-2: Income and Property Tax Incentives (continued)

Recommendation 15

All levels of government should provide tax credits for restoration of wetlands.

Recommendation 16

The U.S. federal government should correct problems with existing tax law to increase the income tax incentives for conservation gifts to nonprofit organizations or governmental entities.

Recommendation 17

State tax codes should allow qualified donations of wetland and adjacent buffer lands to governmental or non-profit entities to be treated as deductions from ordinary income with limits and carry forward provisions allowing the taxpayer(s) to deduct the full value of the wetland and buffer area over time.

Recommendation 18

State natural resource agencies, taxing entities, and departments of agriculture should cooperate to develop their own state "debt for nature" easement program similar to the Farmer's Home Administration program.

Section B-3: Other Incentives

Recommendation 19

Technical assistance and cost sharing should be provided to landowners who restore or enhance wetlands.

Recommendation 20

State, provincial, and local governments should modify property owner liability for landowners who preserve wetlands and make them available for public uses.

Recommendation 21

Award programs recognizing wetland stewardship should be expanded.

Recommendation 22

State, provincial, and local governments should review and amend their subdivision control and planning and zoning laws to incorporate or strengthen wetland protection incentives.

SECTION C:

Strengthening Regulatory Programs

Effective regulatory programs are necessary at all levels of government to bring about an increase in the quantity and quality of wetlands in the Great Lakes Basin. In order to accomplish the goal of increasing the wetland base in the Great Lakes region, governments must adopt programs that prohibit destruction of existing wetland ecosystems by regulating activities that alter wetlands and buffer areas surrounding them. The direct and continuing loss of wetlands through filling, draining, excavating, and other activities which degrade or destroy wetlands must stop. The quality and quantity of the Basin's wetlands cannot be increased unless regulatory programs control the loss and degradation of existing wetlands.

The Consortium recommends that regulatory programs should exist at local, state, and federal levels of government in the U.S., and at the local and provincial level in Canada, that meet the general criteria outlined in recommendations 23 through 30. In addition, recommendations 31-40 address specific weaknesses in existing programs and proposed corrections.

Section C-1: Guidelines for All Regulatory Programs

Recommendation 23

Wetland regulations should cover all activities such as channelization, drainage, vegetation removal, excavation, and the discharge of pollutants that may degrade or destroy wetland functions and values.

Recommendation 24

Wetland regulations should apply to all wetlands and to adequate buffer or transitional areas around them.

Recommendation 25

All wetland regulations should utilize the wetland definition and the delineation procedures adopted by the U.S. federal government.

Section C-1: Guidelines for All Regulatory Programs (continued)

Recommendation 26

The evaluation of the cumulative effects of wetland alteration must be dramatically improved and effectively employed in permitting decisions.

Recommendation 27

Wetland regulatory programs should be designed so that those who propose to alter wetlands carry their fair share of the financial and evidentiary burdens of the application review process.

Recommendation 28

Wetland regulatory programs should consist of permitting standards that first avoid and then minimize wetland impacts, and require compensation for unavoidable impacts. These standards should be applied consistently Basin-wide.

Recommendation 29

Wetland regulatory programs must apply to public and private entities alike.

Recommendation 30

Wetland regulations must contain enforcement provisions that deter violations, and enforcement must be adequately funded and effectively exercised.

Section C-2: Recommendations for Local Regulatory Programs in the U.S.

Recommendation 31

Local units of government should adopt wetland protection ordinances or modify existing ordinances to provide protection offered by the model ordinance developed by the Consortium.

Section C-3: Recommendations for State Regulatory Programs

Recommendation 32

All states in the Great Lakes Basin should adopt comprehensive wetland regulatory programs that meet the requirements outlined above.

Recommendation 33

All states in the Great Lakes Basin should use the Water Quality Certification provisions under Section 401 of the Clean Water Act (33 U.S.C. Sec. 1341) for wetland protection.

Section C-4: Recommendations for the U.S. Federal Program

Recommendation 34

The Consortium recommends that the current regulatory definition of waters of the United States at 33 C.F.R. 328.3(a) be changed to presume that all waters and wetlands are susceptible to use in interstate commerce.

Recommendation 35

The Nationwide Permit Program should be substantially revised to control ongoing cumulative wetland losses.

Section C-5: Recommendations for Wetland Regulatory Programs in Canada

Recommendation 36

The draft Ontario Wetlands Planning Policy Statement must be substantially revised and implemented to provide effective protection for wetlands.

Recommendation 37

All existing statutes and regulations that provide for the protection of wetlands must be used and enforced.

Recommendation 38

Local governments should adopt specific wetland protection strategies through zoning bylaws and official plan designation.

Recommendation 39

The Ontario government must immediately develop effective wetland protection legislation and expedite its implementation.

Recommendation 40

The Ontario government must undergo a full review of the municipal land use planning and review process to ensure that it provides adequate protection for wetlands.

SECTION D:

Ending Government Funding of Wetland Destruction

Wetland regulatory programs are undermined by government financial support of activities that result in wetland destruction. Governments must rectify these contradictory and uncoordinated activities. State and Federal agencies must not provide funding, directly or indirectly, for the activities that they are attempting to control or eliminate through regulation.

Recommendation 41

Government agencies should make subsidizing private activities that degrade or destroy wetlands contingent upon an assurance that the recipient has minimized wetland loss resulting from the funded activity.

Recommendation 42

Programs such as the Coastal Barrier Resources Act or Swampbuster that attempt to limit government funding of activities destructive to wetlands and coastal resources should be extended and revised.

Recommendation 43

State and provincial governments should develop new programs to restrict governmental funding for public activities that destroy or degrade wetlands.

SECTION E:

Expanding Restoration Efforts

An increase in the quantity and quality of Great Lakes wetland resources can be accomplished through restoration of previously filled, drained or polluted wetlands, and through the creation of wetlands in appropriate places.

To successfully increase the acreage and function of our wetlands, restoration efforts must imitate the hydrology, water quality, and biota of comparable natural wetlands. This can be accomplished by careful planning, siting, and timing of restoration and creation projects, and by taking advantage of the many existing policies and programs throughout the Great Lakes Basin which encourage wetland restoration and creation.

Recommendation 44

Opportunities for wetlands restoration in the Great Lakes Basin should be aggressively pursued and carried out so as to recreate lost wetland functions and values.

SECTION F:

Improving Management and Research

The Consortium's goal of an increase in wetland quality and quantity cannot be met without careful management. To enhance the quality of existing Great Lakes wetlands, the functions of each wetland site must be identified, and management efforts must support those functions.

Section F-1: Management Needs

Recommendation 45

Wetland management programs should seek to eliminate abusive disturbances which prevent wetlands from performing their natural functions, and must preserve and enhance critical wetland functions.

Section F-2: Research Priorities

Recommendation 46

Research efforts should focus on applied problems at the ecosystem/watershed level, so that wetlands can be effectively protected, managed, restored, and created.

SECTION G:

Supporting Acquisition Programs

Current regulatory programs are not sufficient to halt the loss of wetlands, let alone increase the quality and quantity of Great Lakes wetlands resources. Many violations are not detected and some wetlands are so critical to the health of the Great Lakes ecosystem that we cannot afford for them to be destroyed, degraded, or improperly managed.

Recommendation 47:

Programs that secure permanent protection of wetland ecosystems in the Great Lakes region through acquiring wetlands in fee, by conservation easement, purchase of development rights, or private acquisition by other means should be expanded.

SECTION H:

Extending Educational Outreach

Achieving the goals outlined above will require extensive communication between diverse groups and raising the awareness and support of the general public and decision makers.

Recommendation 48

Government at all levels, and non-governmental organizations, should increase public education about wetlands values and protection programs.

Recommendation 49

Government at all levels should improve public access to decision making.

Recommendation 50

Non-governmental organizations in the Great Lakes Basin should make wetland protection a priority by developing and presenting educational programs on wetlands, participating in decision-making, planning, and regulatory processes, and undertaking stewardship, securement, restoration, and management of wetlands.

PRESERVING GREAT LAKES WETLANDS:
AN ENVIRONMENTAL AGENDA

PART THREE:
A Call to Action

The Action Agenda

The organizations who participated in the Great Lakes Wetland Policy Consortium are currently involved in wetland protection efforts and are committed to increasing the quantity and quality of wetlands in the Great Lakes Basin. In an effort to ensure the implementation of the Consortium's recommendations, the Consortium members have developed an Action Agenda. This Action Agenda, which appears in the full report, lists specific steps to initiate accomplishing the recommendations, and the organizations that will take a lead role. These steps provide impetus and direction for wetlands protection in the Great Lakes Basin.

Conclusion

Historically, European settlers to the Great Lakes region associated wetlands with negative images. More recently, the numerous values and functions that wetlands provide to the stability, productivity, and integrity of the Great Lakes ecosystem have been realized. This realization has brought about many positive efforts on behalf of individuals and organizations to preserve and protect our remaining wetlands.

The Consortium was formed to encourage these efforts by providing proactive recommendations to protect and enhance wetlands. Although the focus of this document is on wetlands policy and what various organizations and institutions should do, we must realize that institutions and organizations are simply collections of individuals. As such, they are moved by individual action. Those of us who realize the importance of wetlands in the Great Lakes Basin have many opportunities for action.

We hope that the findings of the Great Lakes Wetland Policy Consortium provide direction and support for those willing to take the initiative to work toward the goal of increasing the quality and quantity of Great Lakes wetlands.

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If you are interested in receiving a copy of the full report of the Wetland Policy Consortium, Preserving Great Lakes Wetlands, An Environmental Agenda, have questions regarding this summary report, or would like to help work toward implementing the Consortium's recommendations, please feel free to contact one of the Consortium members listed directly above.

The Great Lakes Wetlands Policy Consortium was initiated by the Tip of the Mitt Watershed Council to provide the financial and structural support for the development of a Great Lakes basin-wide wetlands policy. The Consortium is funded by a grant from the Charles Stewart Mott Foundation.

The Tip of the Mitt Watershed Council is a nonprofit corporation whose purpose is the protection of water quality and the promotion of the wise use of water resources. The Watershed Council promotes these goals through education, water quality monitoring, and support for sound environmental policy.

For more information concerning Watershed Council activities, please call or write:

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beak

Testimony to: Committee on Small Business, U.S. House of Representatives.
John J. LaFalce, Chairman
January 22, 1991

Author: Rostyslaw Caryk, Senior Ecologist
Beak Consultants Incorporated

Subject: Use of the Field Guide for Wetland Delineation, Unified Federal Method, and the Effectiveness and Effects of Using Section 404 of the Clean Waters Act for Wetland Protection.

INTRODUCTION

Mr. Chairman,

I am a senior ecologist with Beak Consultants, Incorporated, working out of its Akron, New York office. My educational background includes a B.S. in Biology from the State University of New York at Buffalo and a Master of Science from the Department of Natural Science and Mathematics at the same university. My background includes over 15 years of experience in environmental consulting.

The Field Guide for Wetland Delineation, Unified Federal Method was approved on January 10, 1989, by four federal agencies, the Environmental Protection Agency, the Fish and Wildlife Service, the Department of the Army, and the Soil Conservation Service. This past spring, I completed a course given by the Wetlands Training Institute, Inc. on conducting wetland delineations using the Field Guide. The course was conducted by two instructors who had assisted in developing the manual and training U. S. Corps of Engineers personnel using the manual (Charles J. Newling and Robert J. Pierce). Although this does not constitute a "certification" for doing delineations, it has provided me a basis for understanding and applying the procedures in a manner consistent with training provided to the Corps. Recognizing that the use of the manual would significantly change the extent of currently identified wetlands and therefore increase the extent of federal jurisdiction and subsequent permit requirements for this geographic area, Beak Consultants and the law firm of Whiteman Osterman and Hanna conducted three seminars over the past year, beginning with one in Buffalo on June 28, 1990. Various federal agencies participated, including the U.S. Corps of Engineers (Corps) and the New York State Department of Environmental Conservation (NYSDEC) in these public seminars. Copies of the brochures announcing the seminars and identifying the participants are included in Appendix A. The seminars were designed to inform the public of the relatively new federal wetland definitions and resulting federal jurisdiction. More recently I participated in a similar workshop on wetlands sponsored by the Erie County Department of Environment and Planning. A copy of the seminar announcement is also included in Appendix A.

COMMENTS ON THE USE OF THE FIELD GUIDE FOR WETLAND DELINEATIONS

Overall, I feel that as an objective nationwide guide, the manual provides a workable and valuable tool for identifying and defining the boundaries of a wetland. It provides a generally sound scientific basis for being able to draw a line, which is defensible and not capricious, in the transitional zone between uplands and wetlands. Although there is room for considerable professional judgement, the Field Guide allows the location of the line to be independently and objectively judged. The location of sample points, and the results of those sample points can be examined, analyzed and verified in the field, if necessary, by the regulating agency. This Field Guide was written to encompass wetlands found throughout the United States, using three general indicators: hydrology, soils, and vegetation. This may have led to a overly broad interpretation of the criteria for wetlands, in order to encompasses all important wetland in each climatic region of the United States. For instance, the definition of a hydric soil indicates that the soil must be saturated for seven consecutive days during the growing season. This seven day period may be sufficient to sustain an important wetland in a relatively arid habitat. However, in a wetter climate such as the western New York region, the same seven day period may identify an area of relatively little wetland value as a regulated federal wetland. Some consideration might be given to producing regional versions of the Field Guide to reflect more appropriate criteria for different geographic/climatic areas. However, I believe there is a more important part of the permitting process which must be addressed before examining the advisability of using a regional Field Guide approach.

The question of wetland value is, I believe, the real problem in the federal permit process. The Field Guide was written to allow an area to be identified as either a wetland or an upland. After being identified as a wetland, all wetlands are treated as if they are of equal value. The Guide was not meant to evaluate the wetland relative to its potential or actual functions, which may include flood control, wildlife habitat, or social importance, among many others. The Corps of Engineers is enjoined by a Memorandum of Agreement with the Environmental Protection Agency (February 2, 1990, see Appendix B) to evaluate permit applications to fill wetlands by requiring three sequential actions by the applicant: first, avoid the wetland entirely; second, minimize the project-related adverse impacts on the wetland resources, assuming avoidance is not justified; and finally, mitigate for the remaining unavoidable environmental impacts. This means that the value of the impacted wetland cannot be factored into the evaluation until the first two steps are met. All wetlands are treated equally. The applicant is required to successfully prove that the proposed project cannot avoid filling the wetland on the site, or that the project cannot be relocated to a "nearby" site without wetlands, before addressing any mitigation plans. This is very hard to do if the project is not water-dependent, such as the construction of a parking lot. An example of a water-dependent project is a boat docking facility. If avoidance cannot be accomplished, no opportunity exists for an applicant to prove that the wetland has a limited function that could relatively easily be replaced or even enhanced. The following is a part of a typical letter I have sent to clients who are considering pursuing an individual permit that involves filling more than one acre in a jurisdictional wetland.

> "If you choose to pursue a permit from the Corps for development of the site, which presently requires fill of over one acre, several permit criteria must be addressed. The Corps and the other involved agencies (EPA, US Fish and Wildlife) require three general conditions to be examined, in order, before issuing a permit. These are:
>
> 1. avoid the wetland
> 2. minimize the impact
> 3. mitigate
>
> These conditions are explained in more detail below:
>
> 1. The Corps states that the first action for approving fill in a wetland is to prove that this fill cannot be avoided through the use of an alternative site, either on the presently owned property or any other available site within the economic area. This will require that an alternative site analysis be done, proving to the involved federal agencies that there are no non-wetland sites presently available which would meet the requirements for the project. The interpretation of the Corps of project requirements may be broader than yours in terms of cost, project design, such as use of a specific store's only acceptable design, or social need. This is especially difficult if the project is not water-dependent.
>
> 2. If no alternative sites can be shown to be available or feasible, on-site impact minimization is then examined. This includes an analysis of the potential of downsizing the project, or redesign of the footprint to impact less wetlands. Again, cost and expected profit do not have excessive weight in making these judgements.
>
> 3. Once the previous two conditions have been examined and fulfilled, the Corps and other involved agencies have generally required the creation of new wetlands to replace the lost wetlands as the primary mitigation method. Since creation of wetlands and replacement of wetland functions is still considered relatively difficult, the agencies are typically asking for two or three acres of created wetlands for each impacted acre. The design and construction plans for a new wetland is

> generally done under the guidance of a wetland specialist and monitored during construction. The client may be held responsible for the success of the wetland, as determined by the Corps, for up to five years after project completion. This generally involves monitoring the wetland, at the client's cost, by a qualified wetland expert.
>
> It has been Beak's experience that this is a difficult and long permit process, usually requiring over six months. Relatively few, if any, non water-dependant have been granted by the Buffalo Corps District for projects where fill of wetlands over one acre was required."

To reiterate, if avoidance cannot be accomplished, no avenue exists to discuss enhancing or expanding a currently low value wetland in exchange for a permit to fill part of it. On the surface this may appear to be a sound policy, as we are prohibited from destroying wetlands if we can avoid them. However, since the definition of a federal wetland is far-reaching, there exist extensive areas with jurisdictional wetlands that are of questionable value to the ecosystem.

Let me use an example of a hypothetical 10 acre site that was drained and farmed in the past, but because it was allowed to go fallow over the years, it has regained its jurisdictional wetland status. Due to continued development surrounding the subject area, it has become isolated and abused by the gradual accumulation of trash, and appears to be of little wetland value to the community or the environment. A project is proposed which would fill five acres of wetland on the site, and restore and protect the remaining five acres. As additional mitigation, a new wetland will also be created in another, less developed area of the township, adjoining another existing wetland. This project would fail the avoidance directive if any other non-wetland land was available for the project nearby, or the project did not address a substantial community need, such a hospital or jail. No opportunity exists for the Corps to evaluate the proposed mitigation. It cannot judge if the development of five acres of the wetland in return for the creation of a wetland having greater value near an existing wetland in a designated town "green space", coupled with the enhancement and future protection of the remaining five acres, is suitable or realistic. Although this mitigation may sound ambitious, and one could properly question the project on safeguards, monitoring, etc., the point remains that the proposed mitigation could not even be discussed if another non-wetland site existed. This other site could also contain the last vestige of mature upland forest in the entire area, which may be more valuable that the isolated wetland. In some geographic regions, upland habitats are less common and may be of more value (ie. increased diversity) to an ecosystem than is a wetland.

Another example typical in this area is that of a landowner wishing to develop part of his land located along an existing town road. If a significant part of the land is designated as wetland, he mostly likely will not get approval from the Corps of Engineers for a subdivision plan to preserve, enhance, and expand certain wetlands on the property in exchange for the right to develop other wetlands on the property, as long as there are other available properties without wetlands nearby. The owner is therefore forced into using various loopholes, that comply with the Section 404 regulations, in order to develop his land. It must be remembered that Section 404 regulations were not specifically written to protect wetlands, especially isolated wetlands, but to "regulate the discharge of dredged and fill material in the waters of the United States", ostensibly for the purpose of maintaining or improving water quality. Because of this, a number of loopholes exist. A recent Regulatory Guidance Letter (14 December 1990 see Appendix B) addressed one such loophole where a developer proposed to use pilings in a wetland to build over a wetland, therefore not "filling" it. The Corps has asserted jurisdiction over this practice, defining such activity as fill. However, another builder may completely span a wetland with a building, but set the foundation completely outside the wetland. No wetland fill is involved, but the wetland is effectively destroyed. The jurisdiction of the Corps ends at the wetland boundary line in an isolated wetland. Again, the law was not written to protect wetlands.

There is a provision in Section 404 permit program regulations which allows the discharge of fill of up to one acre in certain (isolated) wetlands. This nationwide permit, Title 33 of the Federal Regulations Part 330.5 (a)(26), allows an individual owner to build a home (assuming less than one acre of wetland is filled) without going through the long, expensive and uncertain process of obtaining an individual wetland fill permit. Please note that this permit requires a Water Quality Certification from the State of New York. A nationwide permit can also be granted between one and ten acres, but predischarge notification is required to be issued to the public. This action can result in either an individual permit being required or the rigorous review of the project using the 404(b)(1) guidelines (avoid, minimize and mitigate) by the Corps before issuing a nationwide permit. However, the owner can use the provisions of this nationwide permit process to fill even more than one acre by subdividing and selling off individual lots, if those lots border an existing road. This enables each new owner to obtain a nationwide permit and subsequently fill up to one acre of wetland on that lot. The use of this loophole may eventually result in the piecemeal destruction of the entire original wetland. The nationwide permit also allows the fill of high value wetlands, if the applicant is impacting less than one acre, as the wetland is typically not evaluated in the context of its place in a larger ecosystem. Even if the one acre limit is reduced, as may be proposed in revisions to the nationwide permit, piecemeal wetland losses will still occur.

A town that contains a high percentage of wetland acreage and still desires to expand is placed in the same predicament as the landowner cited above. Officially identifying large areas of federal wetlands may deny the town the opportunity of developing part of those wetlands in return for various mitigation plans, even though the wetlands may be single function, low-value wetlands. The town may choose to allow a piecemeal and fragmented development approach. There are situations where there are extensive but primarily single function wetlands in the town which, viewed from an entire basin drainage perspective, provide a valuable flood control role. The use of a fragmented development approach, which would allow the destruction of many of these wetlands, would be environmentally disastrous in the long run. It would be better to require all development to contribute to a general fund which could be used to purchase and develop land for flood control and/or wetland enhancement or expansion.

The evaluation of an environmental impact would be better served by adding a step in the permit application process to include the evaluation of a wetland's function, prior to applying the "avoid and minimize" directives. Procedures are already available for evaluating wetland function and habitat, as well as more general habitat analysis procedures. Wetland protection can become more meaningful in general and more appropriate and sensitive to the value of particular wetlands in different regions of the country, if proper safeguards and guidelines are used, coupled with a reevaluation of conditions for granting a nationwide permit.

Current problems in the Permit Application Procedures

One of the problems a person faces in developing or purchasing a parcel of land is in determining if there is a wetland on the land. Previously, the owner or prospective purchaser could examine the NYSDEC wetland maps, and if a wetland impact was anticipated, could then file a joint application to the NYSDEC for a permit. If navigable waters were involved, the person would then apply to the U.S. Corps of Engineers for a separate permit. That is no longer the case. The owner or perspective buyer must now determine if there is a possibility that wetlands subject to the jurisdiction of the Corps are on the property. This means that the owner must examine various sources of information, including soils surveys and hydric soil lists, U.S. Fish and Wildlife National Wetland

Inventory maps, New York State Wetland maps, floodplain maps, and topographic maps to determine if there are any indications of wetlands on the property. In addition, the owner needs to verify that the information on the maps is current, that is ,nothing has changed that would have created a wetland on the property since the maps were produced. This implies that the owner must be aware of what a wetland is, using the federal definition. Towns may not be able to assist an owner in this process, nor are they legally required to do so. In instances where the owner has doubts, a private consultant may be hired to assist in this decision. If the potential for a wetland exists, the owner is advised to have a delineation done to determine if the wetland exists and if so, where the boundary is, relative to the proposed development. The question arises as to who is responsible for the cost of the delineation if the land is being sold. If it is the purchaser, any number of delineations could be done on one parcel.

Wetland delineations done in the winter are not usually acceptable to the Corps in this geographic region, as the Field Guide requirements cannot be met unless specific conditions are present. This can cause substantial delays in project design. During this past spring, summer and fall when developers were much less aware of the federal wetland permit requirements, many projects were put on hold until next spring.

Once a delineation is completed, the owner is usually advised by the environmental consultant to submit the delineation to the Corps to be verified. Due to the growing awareness of the regulations by both town officials and the general development community, the number of delineations submitted to the Corps increased substantially as the year progressed. Subsequently, the response time for verifying a delineation has become quite long. At this time, the Corps is reviewing delineations submitted in the months of September and October. This delay has obviously caused considerable problems for our clients, especially since there is a seasonal restriction on delineations. A developer is justifiably hesitant to spend money in finalizing designs if the original wetland boundary is not approved. This is especially important as our advice to clients is to avoid wetlands in general, or if that is not possible, to qualify for the simplest nationwide permit by limiting fill in an isolated wetland to under one acre. Because the developer is generally precluded from attempting to mitigate any fill over one acre, as they cannot fulfill the initial "avoid" directive, there is an understandable desire to maximize their investment by using as much land as they can, ie. using as much of the one acre allowed under the nationwide permit as possible. Since the definition of fill was recently clarified to include "activities using mechanized equipment such as backhoes or bulldozers with shear blades, rakes, or discs" (Regulatory Guidance Letter, 18 July, 1990, see Appendix B) the activity which now falls under the definition of fill has expanded substantially. Landscaping activity that does not change contours is now included in the wetland impact acreage computation. This makes the placement of the boundary line quite critical, and obtaining the concurrence letter from the Corps very important. I would like to reiterate the difficulty in obtaining a permit for fill of over one acre. I am not aware of any such individual permits filling over one acre of wetlands being granted in the Buffalo Corps District, when the project was not water-dependent.

The use of both Memorandums of Agreement and especially Regulatory Guidance Letters have made the job of environmental consultants quite difficult. It is our responsibility to our clients to indicate to them where there are jurisdictional wetlands on their projects and to inform them of various options available to them to successfully complete their projects. The continuous use of these documents can easily invalidate our advice, which presently has great influence on decisions regarding property sales or project evaluations. The client could also spend considerable time and money in designing a project, which may become inappropriate by the time the plans are ready to be presented to the Corps for approval. Some consideration should be given to the use of public hearings so that the public is made much more aware of potential changes or "interpretations" of various aspects of the wetland permit procedures. This could be done through the use of a rule-making procedure.

Granting of a nationwide permit for an individual property owner or project allows, as was stated before, the loss of wetlands on a piecemeal basis. The Corps has exerted jurisdiction over planned subdivisions and related infrastructure such as streets or sewer lines, treating the entire subdivision as one project and allowing only one acre of fill for the entire subdivision. However, if a subdivision is created along an existing road, simply by selling off the land in parcels with no tangible plans for development, the original landowner has no regulatory responsibility to the Corps. Each landowner can now apply to the Corps for a one acre nationwide permit, which will probably be routinely granted by the Corps. The question remains as to the applicability of federal jurisdiction for lots which gain road frontage when a road is built by a town for access to some site or to relieve congestion. If there is jurisdiction asserted, is the town then forced to delineate all surrounding areas?

The extent of potential wetlands in the western New York area will ensure that many more delineations will be required in the future. This raises the specter of further delays once the delineations begin again in the spring, and numerous delineations are submitted to the Corps, unless the Corps is able to devote more resources to cope with the added workload.

The Corps has indicated that its policy is that once a project is granted a nationwide permit for a parcel of land on which a project is located, that permit will be the last one granted for that parcel, and that no further subdivisions of the land, through sales, will qualify for another nationwide permit. Is the Corps ready to provide prospective buyers with easily accessible maps of all delineations accepted for a particular parcel? This is especially important after two or three sales of the same parcel on which no wetland development is now allowed. If 0.5 acres of fill is still "available" under a nationwide permit, and the land is subsequently subdivided into three lots, who gets the remaining "available fill"? Is the Corps ready to devote the manpower to pursue such land transactions? Is the Corps willing to prosecute an owner three times removed from the original owner who delineated the land and failed to inform the new owner? The following is an excerpt from a letter issued to a developer granting a nationwide permit:

> "In accordance with your proposal, the filling of 0.7 acres of waters of the United States, including wetlands are approved, allowing for an additional 0.29 acres under the Nationwide Permit at 330.5(a) (26). This would apply for the additional Phases of this development. Therefore, if application is made to this office for activities exceeding discharges encompassing greater than 0.29 acres of waters or wetlands the notification procedures at 33 CFR 330.7, or other applicable regulations must be followed."

Unless deed restrictions are used, how is the Corps, or even new owners, to know where and who used the final 0.29 acres? These and numerous other questions regarding the jurisdiction of the Corps have arisen primarily due to the fact that the regulations were not written to protect wetlands. Indeed, we can expect that there will be legal actions taken which will question the legal basis for some federal wetland jurisdiction.

These are real issues that will only get more complex as the wetland delineations continue. They may well create an atmosphere of antagonism and distrust between the public and its federal and state agencies, while neglecting to effectively protect the wetland resource. I believe it is vital that wetlands are protected, but we need either true federal wetlands protection legislation, or some substantial modifications of the wetland "avoid, minimize and mitigate" directive. Even reducing the acreage of fill allowed under a nationwide permit will not alleviate the problems discussed above. True federal wetlands legislation could be similar in scope to the New York State Wetland Act. This Act generally prohibits activity which adversely affects State-regulated wetlands, through the use of buffers zones and other methods. However, it takes into account the values of the specific wetland being impacted in determining if a project may proceed. Such legislation would enable us to preserve wetlands more effectively, but would also allow some carefully regulated development to proceed. Currently, the jurisdiction of the Corps ends at the edge of an isolated wetland. Nearly any activity bordering that boundary line is not subject to jurisdiction by the Corps. Because of this, valuable wetlands are functionally lost as they are surrounded by inappropriate development. Appropriate legislation or rule changes would encourage, not discourage, overall evaluations of wetlands in local areas, with an overview of a national perspective.

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Wetlands

The Changing Regulatory Environment

A Wetland Is More Than A Swamp

You need to know about Identification and Government Regulation of Wetlands

Thursday, June 28, 1990 at 1:00 P.M.
Ramada Renaissance, Buffalo, NY
(across from the Buffalo Airport)

Presented by:
Whiteman Osterman & Hanna
Beak Consultants Inc.

Wetlands

The Changing Regulatory Environment

TOPICS INCLUDE:

Federal Wetland Regulations ▪ NYS Wetland Regulations
Wetland Identification ▪ Permitting Procedures
Soil & Water Conservation District Information

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Chief, Regulatory Branch with primary responsibility for permitting issues

Patricia Riexinger, NYS Department of Environmental Conservation
Wetlands Program Manager for the DEC's Division of Fish and Wildlife, has been coordinating the Department's wetlands programs for the last six and a half years

John R. Whitney, USDA Soil Conservation Service
District Conservationist for the USDA Soil Conservation Service, has been with the USDA since 1980

Donald S. Stefanski, Whiteman Osterman & Hanna
Five years' experience in the practice of environmental law, with emphasis on land use/regulatory matters

Daniel A. Ruzow, Whiteman Osterman & Hanna
Over ten years' experience in the practice of land use law and the author of many articles about land use/environmental law, a member of the New York State Department of Environmental Conservation Advisory Committee on Freshwater Wetlands

Rostyslaw Caryk, Beak Consultants Inc.
Over 15 years of environmental consulting experience, completed the Wetland Training Institute, Inc., Wetland Delineation Certification Program

Presented by: Whiteman Osterman & Hanna and Beak Consultants Inc.

Thursday, June 28, 1990
Ramada Renaissance, Buffalo, New York
(across from the Buffalo Airport)

REGISTRATION INFORMATION

Registration –12:30 P.M. to 1:00 P.M. - Seminar — 1:00 P.M. to 5:00 P.M.

REGISTRATION FEES

	Pre-Registration	At The Door
Professional	$50.00	$60.00
Government Official	$35.00	$45.00

For More Information Call: 716/854-4420

Wetlands

The Changing Regulatory Environment

A Wetland Is More Than A Swamp

You need to know about Identification and Government Regulation of Wetlands

Wednesday, November 14, 1990
9:00 a.m. to 5:00 p.m.
Albany Marriott Hotel

Wednesday, December 5, 1990
9:00 a.m. to 5:00 p.m.
Sheraton Inn, Liverpool

Presented by:
Whiteman Osterman & Hanna,
Beak Consultants Inc., and Malcolm Pirnie, Inc.

Wetlands

The Changing Regulatory Environment

TOPICS INCLUDE:

Federal Wetland Regulations ▪ NYS Wetland Regulations
Wetland Identification ▪ Permitting Procedures
Soil & Water Conservation District Information
Planning & Design Techniques to Minimize Wetland Impact
Mitigation of Wetland Impacts Including Wetland Creation

Wednesday, November 14, 1990
9:00 a.m. to 5:00 p.m.
Albany Marriott Hotel
189 Wolf Road
Albany, New York 12205

Wednesday, December 5, 1990
9:00 a.m. to 5:00 p.m.
Sheraton Inn – NYS Thruway, Exit 37
7th North & Electronics Pkwy
Liverpool, New York 13088

ALBANY SPEAKERS

Joseph Seebode, Chief, Regulatory Branch
US Army Corps of Engineers

Mario Del Vicario
US Environmental Protection Agency

George Danskin, Chief Permit Adminstrator
NYS Department of Environmental Conservation

Patricia Riexinger, Wetlands Program Manager
NYS Department of Environmental Conservation

David Pendergast
NYS Department of Agriculture & Markets

Rostyslaw Caryk
Beak Consultants, Inc.

Anthony Russo
Malcolm Pirnie, Inc.

Dean Long
the LA group, P.C.

Daniel A. Ruzow, Esq.
Whiteman Osterman & Hanna

Terresa M. Bakner, Esq.
Whiteman Osterman & Hanna

SYRACUSE SPEAKERS

To Be Announced
US Army Corps of Engineers

Mario Del Vicario
US Environmental Protection Agency

George Danskin, Chief Permit Adminstrator
NYS Department of Environmental Conservation

Patricia Riexinger,, Wetlands Program Manager
NYS Department of Environmental Conservation

David Pendergast
NYS Department of Agriculture & Markets

Rostyslaw Caryk
Beak Consultants, Inc.

Anthony Russo
Malcolm Pirnie, Inc.

Joseph McMullen
Terrestrial Environmental Specialists, Inc.

Daniel A. Ruzow, Esq.
Whiteman Osterman & Hanna

Donald S. Stefanski, Esq.
Whiteman Osterman & Hanna

Presented by: Whiteman Osterman & Hanna, Beak Consultants Inc. and Malcolm Pirnie, Inc.

REGISTRATION INFORMATION
Registration – 8:30 a.m. to 9:00 a.m.
Seminar – 9:00 a.m. to 5:00 p.m.
(Lunch is on your own)

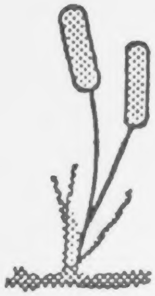
REGISTRATION FEES

	Pre-Registration	At The Door
Professional	$90.00	$100.00
Government Official	$75.00	$85.00

For More Information Call: Ms. Annie Goodale, 518-449-7600

Department of Environment and Planning
95 Franklin Street - 10th Floor
Buffalo, New York 14202

A COMMUNITY TECHNICAL ASSISTANCE PROGRAM WORKSHOP



WETLANDS: THE NEW ROLE OF FEDERAL REGULATIONS IN LAND USE DECISIONS

November 29, 1990
Parkside Village Community Center
Tonawanda, New York

Presented in Cooperation with

USDA SCS and Erie County Soil and Water Conservation District
by the
ERIE COUNTY DEPARTMENT OF ENVIRONMENT AND PLANNING
PLANNING DIVISION

Dennis T. Gorski County Executive	Richard M. Tobe Commissioner	Sharon M. West Deputy Commissioner

WETLANDS: The New Role of Federal Regulations in Land Use Decisions

Just when you thought you knew what a regulated wetland was . . .

WHY ATTEND

In the past year, the U.S. Army Corps of Engineers has become the key actor in wetlands regulation. In Erie County, federally regulated wetlands are now much more extensive than those mapped and regulated by NYSDEC.

WHAT YOU WILL LEARN

- How to screen property for potential wetlands.
- What field indicators are used to delineate wetlands.
- Where resources are available to identify wetland areas.
- How and why the regulatory environment has changed.
- What is involved in the permit process.
- When the joint permits are issued and NYSDEC involvement.
- Who is responsible for enforcement.
- When local land use decisions should involve delineation of wetlands.
- How the concerned and informed citizen can participate in the process.
- What penalties property owners/developers are subject to for unauthorized activity.

Presentations will include discussion of a case study so you can apply what you are learning to a development proposal.

WHERE, HOW MUCH

The workshop will be held at the Parkside Village Community Center, 168 Sheridan Parkside Drive (off Sheridan Drive, west of Military Road) Town of Tonawanda. There is NO FEE. If you join us for the entire workshop, we suggest you bring a bag "lunch".

WORKSHOP PROGRAM - NOVEMBER 29, 1990

3:45 Afternoon Registration
Video on Wetland Values

4:15 How to Use the Soil Survey: Its Role in Wetlands Identification

John Whitney, District Conservationist
USDA-SCS

5:00 Field Indicators for Wetlands

Rosty Caryk, Senior Ecologist
Beak Consultants

5:45 Dinner Break/Evening Registration

6:15 Welcoming Remarks - Richard M. Tobe
Commissioner Erie County DEP

6:30 Federal Wetlands: The Corps' Expanding Regulatory Role

Paul Leuchner, Chief Regulatory Branch
Army Corps, Buffalo District

8:00 NYSDEC Regulation and Coordination Procedures

Steve Doleski, Regional Permit
Administrator, DEC, Region 9

8:30 Effects on Development Proposals

Donald Stefanski, Esq.
Whiteman, Osterman & Hanna

Kevin Young, Dir. Env. Resources
Acres International

9:00 Panel Discussion:
Local Roles and Options

For more information, please call Barb Shilling at 858-7254

- -

REGISTRATION FORM

NAME: ______________________________ DAY PHONE: ______________

TITLE/AFFILIATION: ______________________________________

ADDRESS: ____

Please indicate session(s) you will attend: Afternoon Evening

Please return by November 19 to: ERIE COUNTY PLANNING DIVISION, 95 Franklin Steet,
Buffalo, New York 14202

MEMORANDUM OF AGREEMENT BETWEEN THE ENVIRONMENTAL PROTECTION AGENCY AND THE DEPARTMENT OF THE ARMY CONCERNING THE DETERMINATION OF MITIGATION UNDER THE CLEAN WATER ACT SECTION 404(b)(1) GUIDELINES

I. Purpose

The United States Environmental Protection Agency (EPA) and the United States Department of the Army (Army) hereby articulate the policy and procedures to be used in the determination of the type and level of mitigation necessary to demonstrate compliance with the Clean Water Act (CWA) Section 404(b)(1) Guidelines ("Guidelines"). This Memorandum of Agreement (MOA) expresses the explicit intent of the Army and EPA to implement the objective of the CWA to restore and maintain the chemical, physical, and biological integrity of the Nation's waters, including wetlands. This MOA is specifically limited to the Section 404 Regulatory Program and is written to provide guidance for agency field personnel on the type and level of mitigation which demonstrates compliance with requirements in the Guidelines. The policies and procedures discussed herein are consistent with current Section 404 regulatory practices and are provided in response to questions that have been raised about how the Guidelines are implemented. The MOA does not change the substantive requirements of the Guidelines. It is intended to provide guidance regarding the exercise of discretion under the Guidelines.

Although the Guidelines are clearly applicable to all discharges of dredged or fill material, including general permits and Corps of Engineers (Corps) civil works projects, this MOA focuses on standard permits (33 CFR 325.5(b)(1))[1]. This focus is intended solely to reflect the unique procedural aspects associated with the review of standard permits, and does not obviate the need for other regulated activities to comply fully with the Guidelines. EPA and Army will seek to develop supplemental guidance for other regulated activities consistent with the policies and principles established in this document.

This MOA provides guidance to Corps and EPA personnel for implementing the Guidelines and must be adhered to when considering mitigation requirements for standard permit applications. The Corps will use this MOA when making its determination of compliance with the Guidelines with respect to mitigation for standard permit applications. EPA will use this MOA in developing its positions on compliance with the Guidelines for proposed discharges and will reflect this MOA when commenting on standard permit applications.

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[1] Standard permits are those individual permits which have been processed through application of the Corps public interest review procedures (33 CFR 325) and EPA's Section 404(b)(1) Guidelines, including public notice and receipt of comments. Standard permits do not include letters of permission, regional permits, nationwide permits, or programmatic permits.

II. Policy

A. The Council on Environmental Quality (CEQ) has defined mitigation in its regulations at 40 CFR 1508.20 to include: avoiding impacts, minimizing impacts, rectifying impacts, reducing impacts over time, and compensating for impacts. The Guidelines establish environmental criteria which must be met for activities to be permitted under Section 404.[2] The types of mitigation enumerated by CEQ are compatible with the requirements of the Guidelines; however, as a practical matter, they can be combined to form three general types: avoidance, minimization and compensatory mitigation. The remainder of this MOA will speak in terms of these more general types of mitigation.

B. The Clean Water Act and the Guidelines set forth a goal of restoring and maintaining existing aquatic resources. The Corps will strive to avoid adverse impacts and offset unavoidable adverse impacts to existing aquatic resources, and for wetlands, will strive to achieve a goal of no overall net loss of values and functions. In focusing the goal of no overall net loss to wetlands only, EPA and Army have explicitly recognized the special significance of the nation's wetlands resources. This special recognition of wetlands resources does not in any manner diminish the value of other waters of the United States, which are often of high value. All waters of the United States, such as streams, rivers, lakes, etc., will be accorded the full measure of protection under the Guidelines, including the requirements for appropriate and practicable mitigation. The determination of what level of mitigation constitutes "appropriate" mitigation is based solely on the values and functions of the aquatic resource that will be impacted. "Practicable" is defined at Section 230.3(q) of the Guidelines.[3] However, the level of mitigation determined to be appropriate and practicable under Section 230.10(d) may lead to individual permit decisions which do not fully meet this goal because the mitigation measures necessary to meet this goal are not feasible, not practicable, or would accomplish only inconsequential reductions in impacts. Consequently, it is recognized that no net loss of wetlands functions and values may not be achieved in each and every permit action. However, it remains a goal of the Section 404 regulatory program to contribute to the national goal of no overall net loss of the nation's remaining wetlands base. EPA and Army are committed to working with others through the Administration's interagency task force and other avenues to help achieve this national goal.

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[2] (except where Section 404(b)(2) applies).

[3] Section 230.3(q) of the Guidelines reads as follows: "The term practicable means available and capable of being done after taking into consideration *cost, existing technology, and logistics in light of overall project purposes.*" (Emphasis supplied)

C. In evaluating standard Section 404 permit applications, as a practical matter, information on all facets of a project, including potential mitigation, is typically gathered and reviewed at the same time. The Corps, except as indicated below, first makes a determination that potential impacts have been avoided to the maximum extent practicable; remaining unavoidable impacts will then be mitigated to the extent appropriate and practicable by requiring steps to minimize impacts and, finally, compensate for aquatic resource values. This sequence is considered satisfied where the proposed mitigation is in accordance with specific provisions of a Corps and EPA approved comprehensive plan that ensures compliance with the compensation requirements of the Section 404(b)(1) Guidelines (examples of such comprehensive plans may include Special Area Management Plans, Advance Identification areas (Section 230.80), and State Coastal Zone Management Plans). It may be appropriate to deviate from the sequence when EPA and the Corps agree the proposed discharge is necessary to avoid environmental harm (e.g., to protect a natural aquatic community from saltwater intrusion, chemical contamination, or other deleterious physical or chemical impacts), or EPA and the Corps agree that the proposed discharge can reasonably be expected to result in environmental gain or insignificant environmental losses.

In determining "appropriate and practicable" measures to offset unavoidable impacts, such measures should be appropriate to the scope and degree of those impacts and practicable in terms of cost, existing technology, and logistics in light of overall project purposes. The Corps will give full consideration to the views of the resource agencies when making this determination.

1. **Avoidance.**[4] Section 230.10(a) allows permit issuance for only the least environmentally damaging practicable alternative.[5] The thrust of this section on alternatives is avoidance of impacts. Section 230.10(a) requires that no discharge shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact to the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. In addition, Section 230.10(a)(3) sets forth rebuttable presumptions that 1) alternatives for non-water dependent activities that do not involve special aquatic sites[6] are available and 2) alternatives that do not involve special aquatic sites have less adverse impact on the aquatic environment.

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[4] Avoidance as used in the Section 404(b)(1) Guidelines and this MOA does not include compensatory mitigation.

[5] It is important to recognize that there are circumstances where the impacts of the project are so significant that even if alternatives are not available, the discharge may not be permitted regardless of the compensatory mitigation proposed (40 CFR 230.10(c)).

[6] Special aquatic sites include sanctuaries and refuges, wetlands, mud flats, vegetated shallows, coral reefs and riffle pool complexes.

Compensatory mitigation may not be used as a method to reduce environmental impacts in the evaluation of the least environmentally damaging practicable alternatives for the purposes of requirements under Section 230.10(a).

2. **Minimization.** Section 230.10(d) states that appropriate and practicable steps to minimize the adverse impacts will be required through project modifications and permit conditions. Subpart H of the Guidelines describes several (but not all) means for minimizing impacts of an activity.

3. **Compensatory Mitigation.** Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain after all appropriate and practicable minimization has been required. Compensatory actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands) should be undertaken, when practicable, in areas adjacent or contiguous to the discharge site (on-site compensatory mitigation). If on-site compensatory mitigation is not practicable, off-site compensatory mitigation should be undertaken in the same geographic area if practicable (i.e., in close physical proximity and, to the extent possible, the same watershed). In determining compensatory mitigation, the functional values lost by the resource to be impacted must be considered. Generally, in-kind compensatory mitigation is preferable to out-of-kind. There is continued uncertainty regarding the success of wetland creation or other habitat development. Therefore, in determining the nature and extent of habitat development of this type, careful consideration should be given to its likelihood of success. Because the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, restoration should be the first option considered.

In the situation where the Corps is evaluating a project where a permit issued by another agency requires compensatory mitigation, the Corps may consider that mitigation as part of the overall application for purposes of public notice, but avoidance and minimization shall still be sought.

Mitigation banking may be an acceptable form of compensatory mitigation under specific criteria designed to ensure an environmentally successful bank. Where a mitigation bank has been approved by EPA and the Corps for purposes of providing compensatory mitigation for specific identified projects, use of that mitigation bank for those particular projects is considered as meeting the objectives of Section II.C.3 of this MOA, regardless of the practicability of other forms of compensatory mitigation. Additional guidance on mitigation banking will be provided. Simple purchase or "preservation" of existing wetlands resources may in only exceptional circumstances be accepted as compensatory mitigation. EPA and Army will develop specific guidance for preservation in the context of compensatory mitigation at a later date.

III. Other Procedures

A. Potential applicants for major projects should be encouraged to arrange preapplication meetings with the Corps and appropriate federal, state or Indian tribal, and local authorities to determine requirements and documentation required for proposed permit evaluations. As a result of such meetings, the applicant often revises a proposal to avoid or minimize adverse impacts after developing an understanding of the Guidelines requirements by which a future Section 404 permit decision will be made, in addition to gaining an understanding of other state or tribal, or local requirements. Compliance with other statutes, requirements and reviews, such as NEPA and the Corps public interest review, may not in and of themselves satisfy the requirements prescribed in the Guidelines.

B. In achieving the goals of the CWA, the Corps will strive to avoid adverse impacts and offset unavoidable adverse impacts to existing aquatic resources. Measures which can accomplish this can be identified only through resource assessments tailored to the site performed by qualified professionals because ecological characteristics of each aquatic site are unique. Functional values should be assessed by applying aquatic site assessment techniques generally recognized by experts in the field and/or the best professional judgment of federal and state agency representatives, provided such assessments fully consider ecological functions included in the Guidelines. The objective of mitigation for unavoidable impacts is to offset environmental losses. Additionally for wetlands, such mitigation should provide, at a minimum, one for one functional replacement (i.e., no net loss of values), with an adequate margin of safety to reflect the expected degree of success associated with the mitigation plan, recognizing that this minimum requirement may not be appropriate and practicable, and thus may not be relevant in all cases, as discussed in Section II.B of this MOA.[7] In the absence of more definitive information on the functions and values of specific wetlands sites, a minimum of 1 to 1 acreage replacement may be used as a reasonable surrogate for no net loss of functions and values. However, this ratio may be greater where the functional values of the area being impacted are demonstrably high and the replacement wetlands are of lower functional value or the likelihood of success of the mitigation project is low. Conversely, the ratio may be less than 1 to 1 for areas where the functional values associated with the area being impacted are demonstrably low and the likelihood of success associated with the mitigation proposal is high.

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[7] For example, there are certain areas where, due to hydrological conditions, the technology for restoration or creation of wetlands may not be available at present, or may otherwise be impracticable. In addition, avoidance, minimization, and compensatory mitigation may not be practicable where there is a high proportion of land which is wetlands. EPA and Army, at present, are discussing with representatives of the oil industry, the potential for a program of accelerated rehabilitation of abandoned oil facilities on the North Slope to serve as a vehicle for satisfying necessary compensation requirements.

C. The Guidelines are the environmental standard for Section 404 permit issuance under the CWA. Aspects of a proposed project may be affected through a determination of requirements needed to comply with the Guidelines to achieve these CWA environmental goals.

D. Monitoring is an important aspect of mitigation, especially in areas of scientific uncertainty. Monitoring should be directed toward determining whether permit conditions are complied with and whether the purpose intended to be served by the condition is actually achieved. Any time it is determined that a permittee is in non-compliance with mitigation requirements of the permit, the Corps will take action in accordance with 33 CFR Part 326. Monitoring should not be required for purposes other than these, although information for other uses may accrue from the monitoring requirements. For projects to be permitted involving mitigation with higher levels of scientific uncertainty, such as some forms of compensatory mitigation, long term monitoring, reporting and potential remedial action should be required. This can be required of the applicant through permit conditions.

E. Mitigation requirements shall be conditions of standard Section 404 permits. Army regulations authorize mitigation requirements to be added as special conditions to an Army permit to satisfy legal requirements (e.g., conditions necessary to satisfy the Guidelines) [33 CFR 325.4(a)]. This ensures legal enforceability of the mitigation conditions and enhances the level of compliance. If the mitigation plan necessary to ensure compliance with the Guidelines is not reasonably implementable or enforceable, the permit shall be denied.

F. Nothing in this document is intended to diminish, modify or otherwise affect the statutory or regulatory authorities of the agencies involved. Furthermore, formal policy guidance on or interpretation of this document shall be issued jointly.

G. This MOA shall take effect on February 7, 1990, and will apply to those completed standard permit applications which are received on or after that date. This MOA may be modified or revoked by agreement of both parties, or revoked by either party alone upon six (6) months written notice.

2/6/90
Robert W. Page (date)
Assistant Secretary of the Army
(Civil Works)

LaJuana S. Wilcher 2/6/9
LaJuana S. Wilcher (date
Assistant Administrator for Water
U.S. Environmental Protection Agency

US Army Corps
Engineers
Buffalo District

Public Notice

APPLICANT:

DATE
PUBLISHED: Jan. 14, 1991
EXPIRES: Dec. 31, 1991

IN REPLY REFER TO:
CENCB-CO-R RE: REGL 90-8 **SECTION:** 404

TO WHOM IT MAY CONCERN

Guidance has been published by the U.S. Army, Corps of Engineers, Office of the Chief of Engineers, Washington, D.C. concerning the regulation of pilings under Section 404 of the Clean Water Act.

A copy of the full text of Regulatory Guidance Letter 90-8 is attached to this notice. Please note that this guidance is being applied to all water resource regulatory activities under the jurisdiction of this office.

James R. Brade, P.E.
Chief, Construction-
Operations Division

NOTICE TO POSTMASTER: It is requested that this notice be posted continuously and conspicuously until December 31, 1991.

US Army Corps
of Engineers
Office, Chief of Engineers

Regulatory Guidance Lette

No. 90-8 Date 14 DEC 90 Expires 31 DEC 93

CECW-OR

SUBJECT: Applicability of Section 404 to Pilings

1. The purpose of this Regulatory Guidance Letter (RGL) is to provide additional guidance on the applicability of section 404 to certain categories of projects constructed with pilings in waters of the United States. This RGL represents a clarification and revision to RGL 88-14, which addresses this same subject. Therefore, effective on the date of this RGL, RGL 88-14 is rescinded.

2. For some years, the Army Corps of Engineers, as a matter of policy, has taken the position that pilings do not ordinarily constitute fill material and that the placement of pilings do not ordinarily constitute a discharge of fill material under the Clean Water Act (CWA; see RGL 88-14). Under RGL 88-14, however, the Corps recognized that "in the situation where piles are used in a manner essentially equivalent to fill material in effect, purpose and function they should be treated as fill material under the section 404 program." Historically, pilings were generally used for traditional pile-supported structures such as docks and bridges where the effect, purpose, and function of the pilings were not to replace an aquatic area with dry land or to change the bottom elevation of a waterbody. More recently, however, circumstances have changed, with pilings being used as a substitute for fill material. That is, there is increasing reliance on construction methods involving the use of pilings in place of fill, often at additional cost, in order to avoid regulation under the CWA Section 404. The intent of this RGL is to clarify the application of requirements in the existing Corps regulations to these new circumstances involving the use of pilings in waters of the United States.

3. The Corps regulatory definitions of "fill material" and "discharge of fill material" (33 CFR 323.2 (e) and (f)) are clearly broad enough to capture the placement of pilings in waters of the United States as a discharge that could be regulated in certain specific circumstances. Projects involving pilings meet the definition of "fill" when they have the physical effect or functional use and effect of fill; that is, pilings may be regulated when they constitute the equivalent "of replacing an aquatic area with dry land or changing the bottom elevation of a waterbody." As was explained in RGL 88-14, pilings may have this function or effect when they are placed so as to facilitate sedimentation, or are placed so densely that they in effect

displace a substantial percentage of the water in the project area. In addition, pilings have the physical effect or functional use of fill, and will be regulated as fill, in circumstances where a structure is placed on top of the pilings in such a manner as to constitute the functional equivalent of fill; or where pilings are placed for the same basic purpose as fill; or where pilings have essentially the same effects as fill (i.e., replaces an aquatic area with dry land or changes the bottom elevation of a waterbody). Similarly, the placement of pilings in waters of the United States may, in certain specific circumstances, be regulated as a "discharge of fill material" under the current regulations.

4. Therefore, based on current regulations, the placement of pilings in waters of the United States will require authorization under section 404 when such placement is used in a manner essentially equivalent to a discharge of fill material in physical effect or functional use and effect. Examples include, but are not limited to, the following activities in waters of the United States:

a. PHYSICAL EFFECT OF FILL: Projects that in effect replace an aquatic area or change the bottom elevation of a waterbody as a result of the placement of pilings that are so closely spaced that sedimentation rates are increased or the pilings themselves essentially replace the bottom will be regulated under CWA Section 404. This circumstance would include pilings placed in waters of the United States for dams, dikes, other structures utilizing densely spaced pilings, or as a foundation for large structures.

b. FUNCTIONAL USE AND EFFECT OF FILL: Construction projects will be regulated under CWA Section 404 where pilings serve essentially the same functional use as a solid fill foundation, and where the project would result in essentially the same effects as fill (e.g., alter flow or circulation of the waters, bring the area into a new, non-aquatic use, or significantly alter or eliminate aquatic functions and values). Regulated activities include the placement of pilings to facilitate the construction of office and industrial developments, parking structures, restaurants, stores, hotels, multi-family housing projects, and similar structures in waters of the United States.

5. Placement of pilings in waters of the United States will, as in the past, not be regulated under section 404 in circumstances involving linear projects such as bridges, elevated walkways, or powerline structures, since pile-supported structures have

traditionally been used in these circumstances to cross waters of the United States, and have not substantially harmed or eliminated aquatic functions and values. Similarly, placement of pilings will not be regulated under section 404 in circumstances that involve structures that have traditionally been constructed on pilings; examples are piers, boathouses, wharves, marinas, lighthouses, and individual houses built on stilts solely to reduce the potential of flooding (e.g., beach houses where road access is on uplands, but the house may be located in a low area necessitating construction on stilts).

6. We believe that it is appropriate to regulate projects placed on pilings, as provided for in paragraph 4. above, because of the effect the projects have on the aquatic environment and because they are essentially equivalent to solid-fill supported projects in purpose, effect, and/or function. Moreover, we have noted an increasing incidence of cases where large-scale construction projects originally, and typically, designed to be built on fill material have been re-designed for pile supports solely for the purpose of evading section 404 regulation.

7. For any proposed pile-supported project where the proponent has relied on earlier Corps guidance to conclude reasonably that a project is not covered by section 404, and has committed substantial resources to the degree that it would be unreasonable and inequitable for the Corps to assert section 404 jurisdiction based on this RGL, the District should not assert section 404 jurisdiction. In cases where a project proponent has been provided a specific answer by the Corps, in writing, that a pile-supported structure will not require a section 404 permit, the District will not require a section 404 permit.

8. As with all determinations regarding whether a proposed activity requires a section 404 permit, the Corps is solely responsible for the decision.

9. This guidance expires 31 December 1993 unless sooner revised or rescinded.

FOR THE COMMANDER:

Patrick J. Kelly
PATRICK J. KELLY
Major General, USA
Director of Civil Works

US Army Corps
of Engineers
Office, Chief of Engineers

Regulatory Guidance Letter

2. JUL 1990

No. 90-5 Date 18 Jul 90 Expires 31 Dec 92

CECW-OR

SUBJECT: Landclearing Activities Subject to Section 404 Jurisdiction.

1. The purpose of this guidance is to interpret the statutory and regulatory definitions of "discharge of a pollutant" (CWA section 502(12) and 33 CFR 327.2(f)) to the effect that landclearing activities using mechanized equipment such as backhoes or bulldozers with sheer blades, rakes, or discs constitute point source discharges and are subject to section 404 jurisdiction when they take place in wetlands which are waters of the United States.

2. In Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897, 923 - 24 (5th Cir.1983) the court stated that the term "discharge" may reasonably be understood to include "redeposit" and concluded that the term "discharge" covers the redepositing of soil taken from wetlands such as occurs during mechanized landclearing activities. Although the court in Avoyelles did not decide whether all landclearing activities constitute a discharge, it is our position that mechanized landclearing activities in jurisdictional wetlands result in a redeposition of soil that is subject to regulation under section 404. Some limited exceptions may occur, such as cutting trees above the soil's surface with a chain saw, but as a general rule, mechanized landclearing is a regulated activity.

3. As with any discharge subject to section 404, each case must be reviewed to determine if the discharge qualifies for a regional or nationwide permit, or for an exemption under section 404(f). This guidance is not intended to alter the exemptions for normal farming or silviculture activities under section 404(f).

4. This interpretation alters in some respects the guidance provided by previous Regulatory Guidance Letters (RGLs) on Landclearing (in particular RGL 85-4) and FOAs should exercise appropriate enforcement discretion with regard to properties whose owners have previously been informed that no permit is required for such landclearing based on the prior RGLs. The guidance in this RGL should apply to property which has not been cleared, unless the owner can demonstrate that he has committed substantial resources towards the clearing, in reliance on earlier Corps guidance, to the extent that it would be inequitable to apply this guidance.

5. This guidance expires on 31 December 1992 unless sooner modified or rescinded.

FOR THE DIRECTOR OF CIVIL WORKS:

JOHN P. ELMORE
Chief, Operations, Construction and
  Readiness Division
Directorate of Civil Works

NIAGARA COUNTY SOIL AND WATER CONSERVATION DISTRICT

4487 LAKE AVENUE
LOCKPORT, NEW YORK 14034
TELEPHONE: (716) 434-4949

Effects of the Federal Wetlands Permit Program (Section 404 of the Clean Water Act) on the Agricultural Industry of Western New York

by Richard Tillman, District Manager
Niagara County Soil & Water Conservation District
January 22, 1991

Good Morning. My name is Richard Tillman, District Manager of the Niagara County Soil and Water Conservation District. I have worked for 14 years in 3 different Western N.Y. Soil and Water Conservation Districts. My educational background is in wildlife management, soils and engineering. I have worked with individuals, groups and towns on wetland permits for both N.Y.S.-D.E.C. and Army Corps of Engineers. Soil and Water Conservation Districts are county agencies that provide services in a wide range of natural resource issues, problems and management practices including the agricultural field.

Since the Spring of the year, our office has been overwhelmed by the number of requests for information and help in understanding the Federal Wetlands permit program. There is so much confusion and misinformation out concerning the wetlands program that it scares people.

The agricultural community is not against wetland regulations and preservation. They are worried how the federal wetlands program will affect their operating efficiency and profitability. It's perceived by many that the Corps wetland procedures are:

1) Cumbersome and time consuming

2) Too broadly interpreted by the Corps staff on what is a wetland

3) Army Corps of Engineers will not provide needed information

4) Places a financial burden on farm operations

Let me go into more detail and give examples of what I've just listed as perceived problems.

1) Cumbersome and Time Consuming procedure-

The Army Corps of Engineers has been treating all projects, no matter what the size, as major disturbances requiring detailed wetland delineations, engineering information and designs. This is, in effect, making farmers and town drainage districts criminals because they cannot afford to wait long periods of time to get information back from the Corps, or afford the extensive cost for these delineations.

According to Army Corps in Washington, DC, agriculture is supposedly exempt from Section 404 Corps permits for daily agricultural activites. But in Western NY and all the lake plain counties, our topography is relatively flat and the glacial laid soils compound the need for maintaining our drainage system to keep agriculture commercially practical. Drainage projects are usually not confined to only the farm but may cross several farms, woodland and brush areas for an outlet. The majority of the drainage activities are cleaning and maintenance of existing drainage structures, which were built when this land was settled and cleared over 100 years ago. These projects are usually maintained by the owners of the property or Town drainage districts on an "as needed" or "can afford" basis.

Little to no new agricultural land has been carved out of wetlands in the last 40 years in Western NY. Quite the reverse is occurring-- we are losing cropland. Since 1950 some 60,000 acres of land once cropped has been converted or abandoned in Niagara County alone. Much of this acreage is now showing up as wetland acreage due to the vegetation growing on it. Through these areas, the drainage systems must be maintained to protect upstream agriculture and development areas.

The Corps needs to develop a process to review projects quicker where wetland determinations have already been completed by USDA-Soil Conservation Service determining that existing cropland were prior converted wetlands and are therefore exempt from Section 404 Wetland permits. If a federal agency,such as the USDA Soil Conservation Service, has already designated an area not a wetland, why does it take the Corps so long to confirm this fact? Special consideration needs to be given when a project involves maintenance of an existing structure to handle its designed flow.

2) Broad interpretations of the federal wetlands manual by Corps staff--

The Army Corps of Engineers staff seem to have varying interpretaions of the wetlands manual when determining what is or is not a wetland. We have heard everything from needing all three wetland criteria (hydric soils, hydrophytic vegetation, and hydrological conditions) to only needing one indicator to determine if a wetland is present. The definition of " under normal circumstances" can also be interpreted differently by different staff employees.

Some examples of the wide range of interpretations which our staff has encountered with the Corps staff over Section 404 wetlands permits are:

--We had an agricultural field that had hydrophytic vegetation in it and hydrological conditions caused by a damaged drainage system (an underground tile line was crushed) with no hydric soils or potentially hydric soils. The first Corps staff person we talked with about the site said this area was a wetland even without the presence of hydric soils. Later, after several days of argument with the Corps staff, they changed their ruling.

--Another situation in which we were involved, was when we wanted to clean a ditch in a peach and cherry orchard in soils listed as hydric and potentially hydric. A few hydrophytic plants were present but confined to the ditch itself. The Corps wanted a completed delineation of the project site. They said the orchard was a wetland and may need a permit to clean the ditch. If you know anything about fruit production, you would know that neither cherries nor peaches can be grown in wetland conditions. They are very sensitive to moderately poor and poorly drained soils. After several months of discussion with the Corps, they decided the area was, after all, not a wetland and the project could commence.

--We have several drainage projects in Western NY that until a year ago would not have required Corps review of approval. They have been held up by them for several months. Funding for these projects through the State Agricultural Water Management Program is hinging on Corps review and approval. But at the rate they are moving, we will most likely fail to receive this funding. The lions share of these projects are 100% in cropland, with no wetlands involved.

There needs to be a tightening up of the Wetlands manual to reduce the room for broad interpretation by over-zealous staff people, who are trying to protect themselves from lawsuits.

3) Obtaining information from the Corps staff is difficult at times, when concerning the need to get a permit and permit procedures. This I would have to blame on the administration and not the staff itself. It's impossible for 3 or 4 staff people to handle the several hundred wetland permit applications as well as answer questions on potential permits.

Additional staffing is needed to solve these problems. A staff person is needed just to handle questions and public relations concerning wetlands. This staff person could also be used for education programs for the general public, who are screaming for information and explanations. There's a lot of misinformation and lack of understanding about the whole Section 404 wetlands program.

The Corps needs to come up with maps other than soils maps, showing where their wetlands are, much like NYS-DEC wetland maps. This would reduce the confusion of where the wetlands are and if a permit is needed. This would make life a lot easier for our staff and the Corps staff.

The Corps needs a process to handle agricultural drainage projects which they may be inundated with if all agricultural projects followed protocol. This would increase the load for the already overburdened staff.

4) The financial burden of the costly wetlands delineations for any given piece of property is becoming a real problem to owners and potential buyers. Agricultural drainage improvement projects by individuals, town drainage districts and groups cannot afford the expense of wetland delineations for each project. The cost of these delineations can make a project economically unfeasible.

Hidden costs affecting farmland is the competition amongst developers for that land. Developers are avoiding areas with potential wetlands and are now competing with farmers wishing to purchase non-wetland agricultural fields. This will unduly raise the value of non-wetland cropland making it cost prohibitive for a farm operation to expand. We are presently seeing evidence of this in Niagara and Monroe Counties.

Another hidden cost will be a shift in the tax burden of land taxes. Wetlands receiving lower land assessment values due to their limitations, will now shift to agricultural land and other property owners.

These are some of the affects of Section 404 wetlands provisions on agricultural. Review of the wetlands manual and permit procedures need to be done. Streamlining and speeding up of the review process is also needed. Better communication between the Corps and the public is vital.

Thank you for this time to discuss wetland problems and their affect on agriculture.

TESTIMONY OF ANTHONY W. MCKENNA
GIVEN TO THE
SMALL BUSINESS COMMITTEE OF THE
UNITED STATES CONGRESS
JANUARY 22, 1991
AT THE CITY OF LOCKPORT, NIAGARA COUNTY, NEW YORK

The focus of my testimony will be the effect of the current Wetland regulations on local government.

The firm which I represent serves under contract to 7 townships and 3 villages as municipal engineer. In addition we have represented numerous other towns, villages, cities and counties on a project specific basis over the last 50 years of our existence.

We have witnessed and participated in the great infrastructure funding programs of the 60's, the 70's wastewater and industrial treatment programs, the 80's road & bridge rehabilitation programs and the late 80's/early 90's work on solid and hazardous waste remediation programs.

All of these programs were essentially lead by federal initiatives which impacted local communities. In all previous cases, it can be said, the positive impacts outweighed the negative.

The current Wetland regulations, however, are an exception. This noble legislation which was intended to rescue valuable and diminishing environmental habitat has instead caused delays in worthwhile local initiatives, created confusion for local governing bodies and usurped the rights of local municipalities to carry out basic zoning, planning, and maintenance functions.

In drafting federal regulations it is difficult to create uniform rules which will apply to municipalities of different size. In the case of thislegislation, however, an attempt was made not only to make one set of rules which would apply to all municipalities regardless of size, but also regardless of its topography and hydrology.

As a result extremely large tracts of land have been classified as a potential Wetland area while the value of that land has never been reviewed. In fact it is my understanding that the "value" of the Wetland is not a factor in establishing whether or not the land shall be preserved.

As examples, I have brought with me these maps of 3 towns and two villages which depict the potential Wetland impact area as compared to the total land area of each municipality.

Communities such as these were already struggling with current regulation which included Federal and State of New York mapped Wetland areas and the areas contiguous to both. These regulations were controversial enough. The prior regulation took large areas of land and put them into restricted development categories. For agricultural areas, this has caused great concern since the owners of most medium to small farms consider their land as an insurance policy for retirement. Many small farmers have struggled with low prices for their goods - looking for better times. At least they still had the land.

A review of the municipal maps we have as exhibits shows the extent of the impact of the current federal regulations. Under current regulations approximately 60% of the total land area in the Town of Newfane and the Town of Lockport is classified as potential environmentally sensitive Wetland.

Using the same criteria, over 90% of the Town of Wheatfield could be classified as Wetland. In the densely populated and developed villages approximately 90% of the Village of Youngstown and 50% of the Village of Lewiston could be classified as Wetlands.

These figures are, no doubt, representative of all the communities in Niagara County and perhaps other communities elsewhere in the state.

It is difficult to believe that all this land area is so environmentally sensitive. We know that it is not. The problem arises through the use of arbitrary and very technical means to define Wetlands. The means chosen were hydric soils, hydrology and vegetation. Any land, if it has the right soil type and is wet for a short time each year can qualify as, or be transformed into, a wetland. (Regardless of its value to habitat or the maturity of its vegetation.) As an example: Town drainage ditches, if not maintained, can cause the creation of wetlands upland of the partially working or blocked ditch. Is the municipality liable to Upland owners for the loss of value to their property? Since the ditches themselves can be classified as wetlands the municipality must go through a nuisance permit process just to carry out one of its basic functions - maintaining drainage control!

Returning to the Town of Newfane's map 60% of the total area of the town contains hydric or potential hydric soils and is therefore potentially locked out of development. In the 70's the town built a wastewater treatment plant and miles of collector sewers to prevent the pollution of Lake Ontario and it's tributary creeks - at the mandate of the federal and state governments. The cost of operating and maintaining this treatment system have skyrocketed in the last 3 years - due in large part to new initiatives by the federal and state governments dealing with sludge disposal. Landfill costs have quadrupled. The town recently increased its rates for sewer use by 50% in response.

The school tax was increased by 40% two years ago due in part to mandated programs.

The best chance the town has to keep a lid on its taxes and retain its economic base, its industries and its jobs is now threatened by Wetland regulations which will disrupt, discourage, and preclude ordinary and necessary development at a time when it is most needed. This scenario is also essentially true for all the other communities I have referenced.

Finally, it is impossible to see how these municipalities can effectively zone or Master Plan their communities - a basic function of government-under the current regulations.

Based on the hydric soil, hydrology and vegetation parameters it is impossible to determine what areas can be zoned, planned and for what purposes. Can you imagine the cost of doing a Wetlands delineation for a complete town so that planning could go forward. And what good are existing Master Plans and zoning documents which were the culmination of years of effort and thought.

I suggest a more practical solution to this dilemma. Critical and environmentally sensitive wetland areas should be evaluated with proper input from the municipality and its constituents. Those areas which are shown to be of national importance should be mapped as was done by the State of New York in its program.

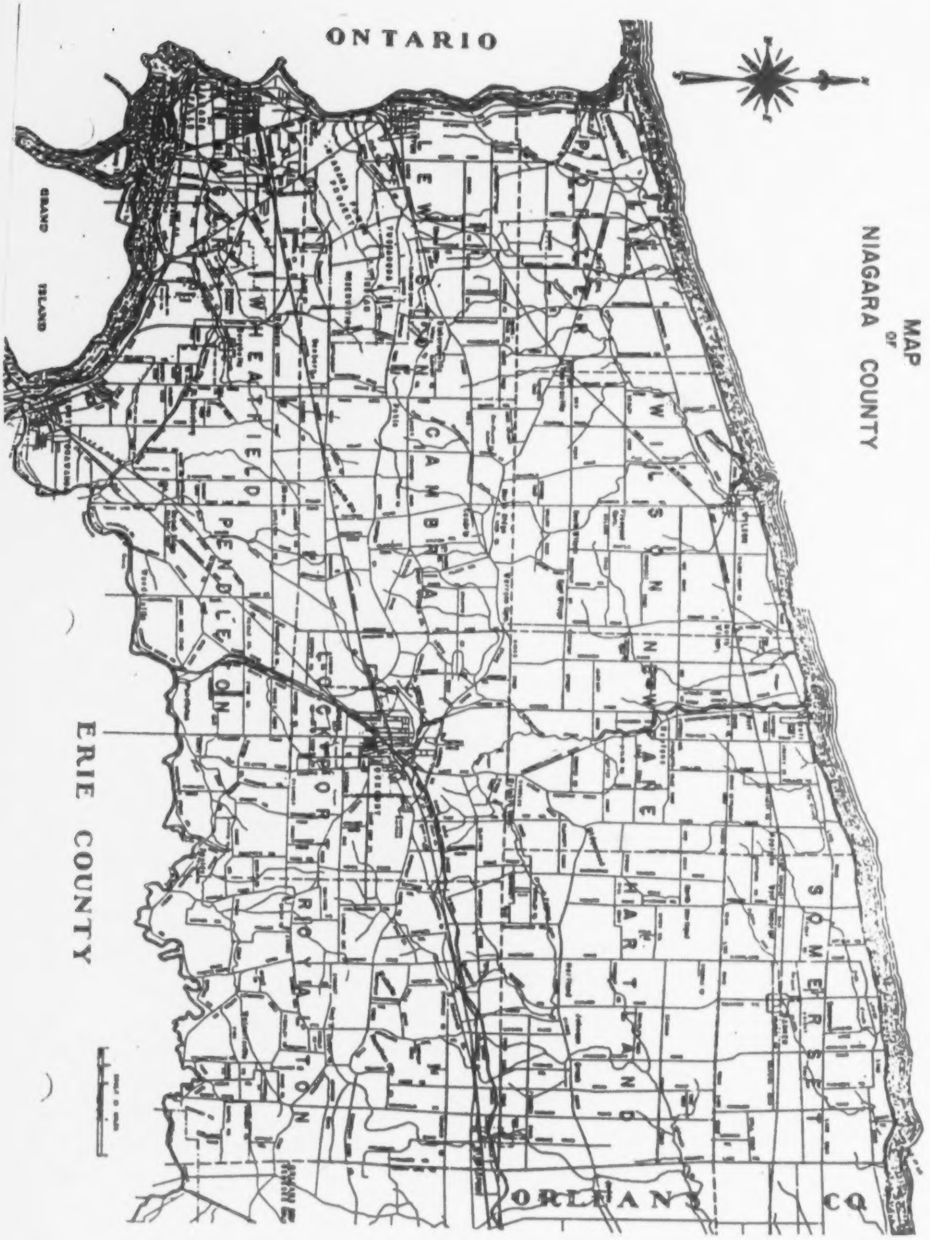
I think it would be advisable for the state and federal government to work together on this issue. In this way it is possible that a common set of specific wetlands could be identified for protection. Local governments, developers, farmers, etc. would then have a reference which would aid in planning and investment.

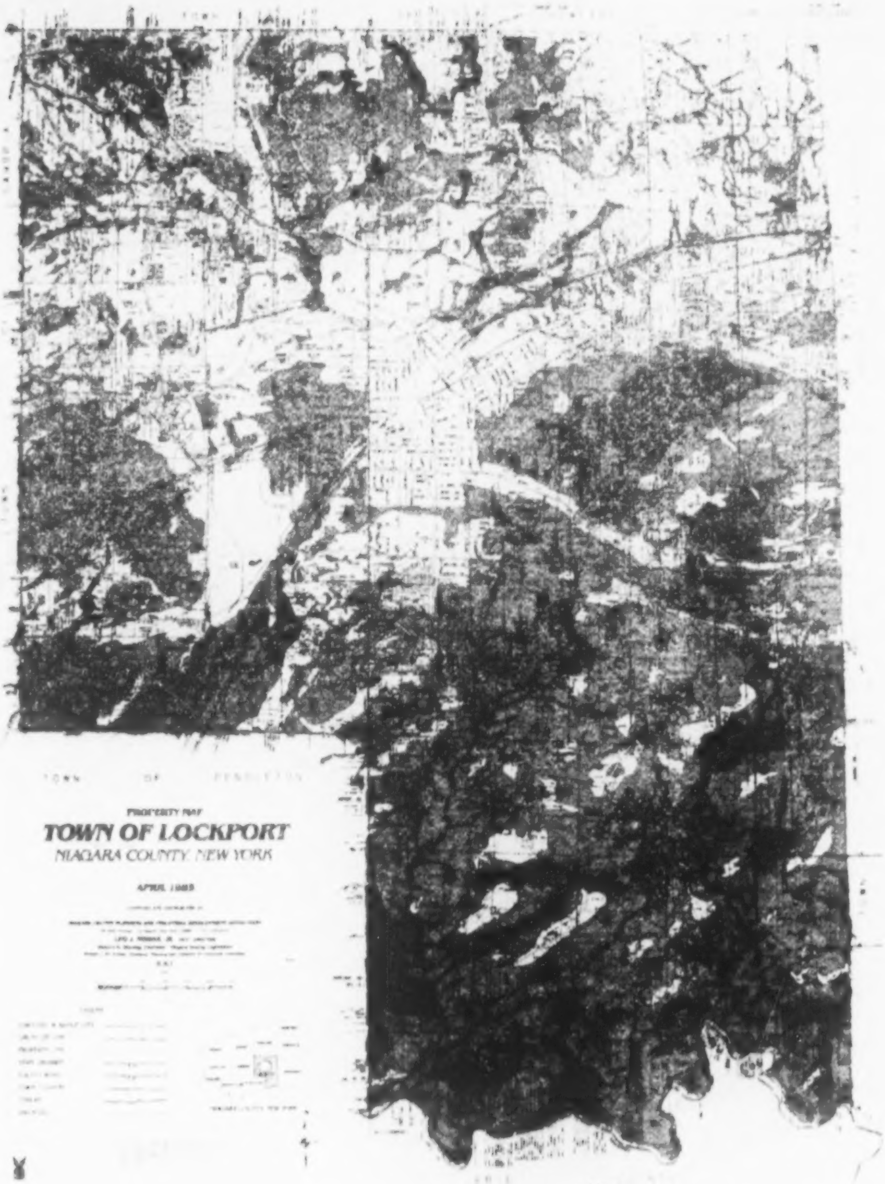
The final recommendation I would make has to do with compensation to the current landowner. Under current regulation the landowner of record has unknowingly become the caretaker of what is acknowledged as a nationally important resource.

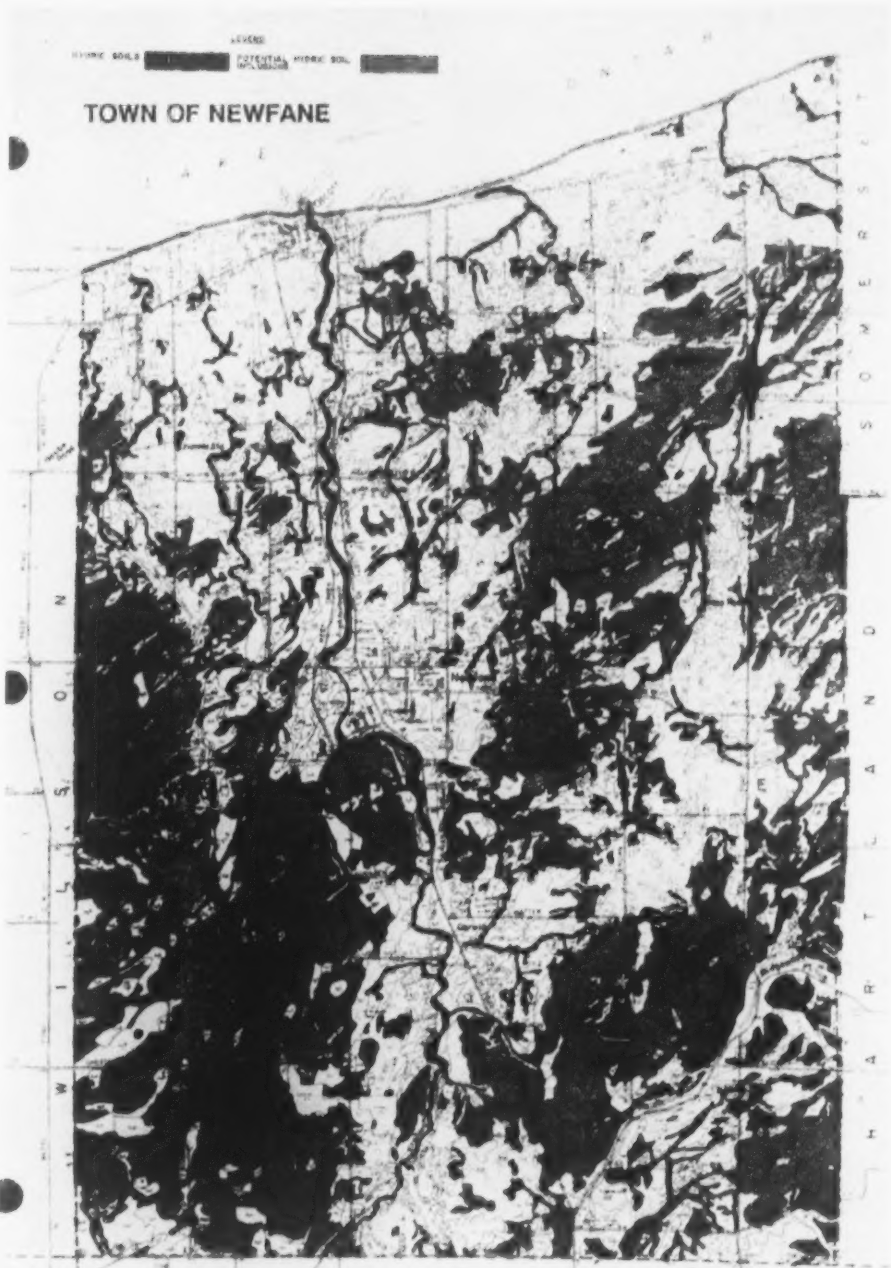
The landowner also must absorb the cost associated with the regulation - the loss of value to this land. This seems inherently unfair and I believe the landowner should be compensated under eminent domain procedures.

Funding this approach will be difficult and perhaps impossible to do at this time. This program would then have to stand the test of national priority in the federal budget process much like all other worthwhile programs.

The recommendations contained in this testimony will preserve the valuable resource, will compensate the aggrieved landowner, eliminates the wasteful, costly, and confusing permit process at the federal and local level, and allows municipalities to plan, zone, operate and maintain their municipalities.


ONTARIO
MAP OF NIAGARA COUNTY
GRAND ISLAND
PORTER
LEWISTON
NIAGARA
WHEATFIELD
PENDLETON
CAMBRIA
WILSON
NEWFANE
LOCKPORT
ROYALTON
HARTLAND
SOMERSET
ERIE COUNTY
ORLEANS CO.


TOWN OF PENDLETON
PROPERTY MAP
TOWN OF LOCKPORT
NIAGARA COUNTY, NEW YORK
APRIL 1985
LEGEND
HYDRIC SOILS
POTENTIAL HYDRIC SOIL INCLUSIONS



TOWN OF NEWFANE

LEGEND
HYDRIC SOILS
POTENTIAL HYDRIC SOIL INCLUSIONS
LAKE
ONTARIO
SOMERSET
HARTLAND
WILSON
LOCKPORT

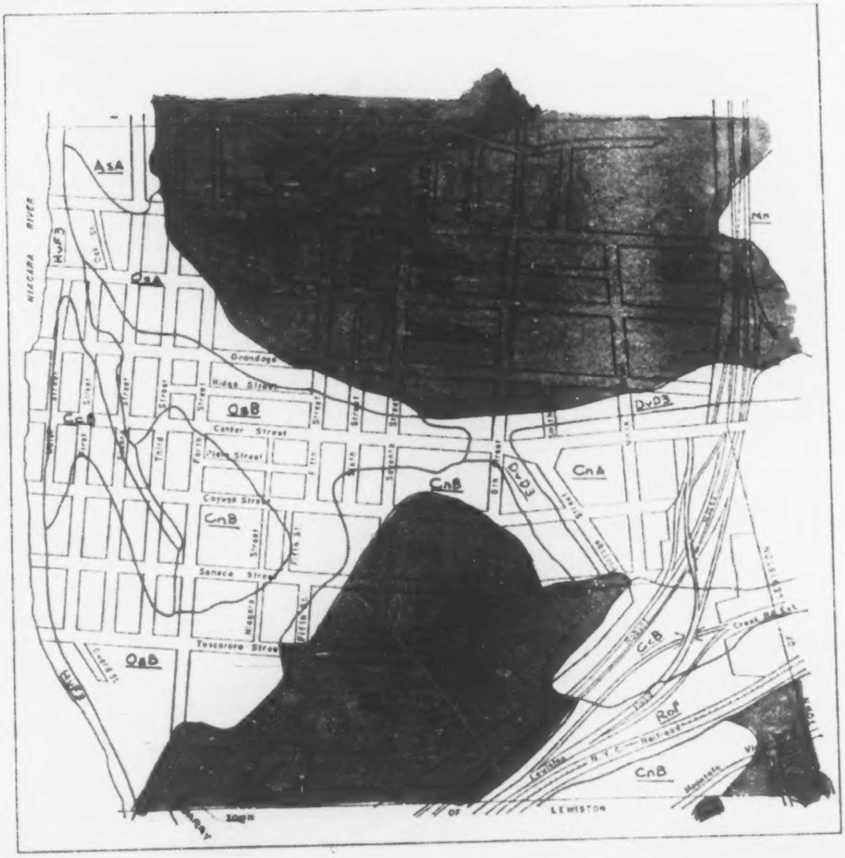
LEWISTON
CAMBRIA

TOWN OF WHEATFIELD

[redacted]

[redacted]

VILLAGE OF LEWISTON


AsA
OsA
HwF3
NIAGARA RIVER
Oak St.
Onondaga
Ridge Street
OsB
Center Street
Plain Street
Third Street
Fourth Street
Cayuga Street
CcB
CnB
Seneca Street
Niagara Street
Fifth St.
Tuscarora Street
OsB
HwF3
DvD3
DvD3
CnA
CnB
Mn
CcB
Creek Rd Ext.
RoF
N.Y.C. Railroad
Lewiston
CnB
Mountain
OF
LEWISTON

LEGEND

HYDRIC SOILS ■ POTENTIAL HYDRIC SOIL INCLUSIONS ▨

Final Draft
Written Testimony

January 21, 1991

Testimony before the U.S. House of Representatives Committee on Small Business regarding Federal Wetlands

Statement of James E. McElheny

I would like to thank this Honorable Committee for allowing me to testify before them today regarding the issues surrounding the current Federal Wetlands Regulations.

My name is James E. McElheny. I reside at 868 Willow Street, Lockport, NY. I am a United States Citizen, and a 1972 graduate of the University of Detroit with a Bachelors Degree in Civil Engineering and Urban Planning. In 1977 I was licensed to practice as a Professional Engineer in the State of New York. I have been practicing for twenty (20) years in the Western New York area.

Today I bring representation of several groups and affiliations that I represent providing this testimony. First, I'm currently the President of the Western New York Chapter of the American Consulting Engineers Council. Second, I am currently the First Vice-Chairman of the Board of Directors of the Eastern Niagara Chamber of Commerce. I am also the Past Chairman and a member of the Chamber of Commerce Government Affairs Committee. Third, I represent the Town of Lockport as their Town Engineer and Planning Consultant, and finally as a small businessman as a Principal in a Construction/Development Company.

With me today are representatives of some of the agencies I am involved with. First, Floyd Snyder, Supervisor, Town of Lockport, Carol Tomaino, Chairman of the Board, Eastern Niagara Chamber of Commerce, Thomas Tefft, Chairman of the Chambers Government Affairs Committee and David Kinyon, President of the Eastern Niagara Chamber of Commerce.

First, I would like to address why we bring this testimony before your Committee. The amendments under Section 404 of the Clean Waters Act of 1986, 33, U.S. Codes 1344, Congressional Federal Register EPA, 40 CFR 230.3 and COE, 33 CFR 328.3 and the "Swampbuster" provision of the Food Security Act of 1985, have resulted in some near tragic episodes as enforcement proceedings have been initiated since the middle of 1990 based upon the joint agreement reached between U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, United States Fish and Wildlife Service and the U.S. Department of Agriculture - Soil Conservation Service.

We are not here on a witch hunt against the Corps of Engineers because we feel they are the messenger. Please note, in the Buffalo District, they have upheld their mission and they have been courteous, professional and responsive to the best of their ability and limits of their staff and resources.

We would like to focus our testimony on ten (10) specific issues:

1. The regulations have expanded the roll of interpretation into a broad land area, causing uncertainty, by a definition related needlessly to a broad array of soil types. The definition of "hydric soils" has increased the perception of the jurisdiction by more than 400 percent beyond the existing mapped jurisdictional wetlands.

2. The question of reasonability of the regulations, when they are extended vaguely and ambiguously, based on a condition calling for the potential of its presence, that is "soils with potential hydric inclusions", soils that by SCS definition are "somewhat poorly drained".

3. We are concerned about the lack of solid recognition in the Federal Regulations for the inherent differing hierarchy of ecological value of various wetland types. The New York State Regulations do recognize this hierarchy but due to the overlapping of jurisdiction, the hierarchy is mitigated to no consequence.

4. We question the need for the duplicity of jurisdiction and bureaucracy with the States, where States have wetland protection regulations in place and have demonstrated enforcement.

5. We raise the question, a very serious question, as to whether or not the joint agency regulations exceed the intent of the legislative process.

6. We question the fiscal impact of what is becoming the apparent and obvious need for the Corps or EPA to staff up to respond to the delays, disruption and uncertainty caused through these regulations. And, with that the associated costs of the additional personnel resources needed to administer this program.

7. We question the broad and vague interpretation of the goal and policy of "No Net Loss" of values and functions of wetlands. Does it even make sense?

8. Once again we question the apparent attempt by the Federal Bureaucracy to promulgate uniform regulations, nationwide, to solve what had been noted to be specific problems, in isolated regions, such as those which have unequivocally occurred in California, Texas, Louisiana, Florida and elsewhere.

9. The current regulations, utilizing an implied exemption for active agricultural lands, active within the most recent 5 year period, will drive developers to acquire active farmland to avoid the wetlands issue.

10. We raise the question of these regulations achieving a responsible balance of social and economic interests in the community and nationally?

There is an obvious need to preserve, protect and enhance the wetlands resource. This was recognized in the Legislation, it is important, correct and necessary to protect this resource within the boundaries of the Legislative intent.

We hope to demonstrate through specific examples, where current regulations fail to serve the balance of social, economic and environmental needs of the country and communities at large.

First, let's examine some examples of occurrences within the last six (6) months in the Town of Lockport, New York.

Under the leadership of Floyd D. Snyder, as Town Supervisor, during the last thirty (30) years, the Town of Lockport has become recognized as one of most progressive and fastest growing Towns in New York State. This is not unlike Governor Cuomo's acknowledgement that currently Western New York, having suffered its lowest economic recession earlier in the 80's, is now probably the shining star of New York State.

The Town has made substantial investments in modern infrastructure and due to its strong fiscal responsibility held the line on costs at the same time. The Town has been rewarded with a continued high quality of life, substantial private investment in commercial, retail, industrial and residential development.

Since 1968 the tax base has been expanded from less than $100 million dollars to well in excess of $500 million dollars. During this same period, new capital construction investments have totalled over $200 million dollars generating construction jobs, retail manufacturing and service sector employment and most importantly secured a stable base for General Motors, Harrison Radiators Division World Headquarters, which is Western New York's leading private sector employer. Over $180 million dollars have been generated in investment from the private sector. Work has recently begun on a $160 million dollar Co-generation Plant at Harrison to produce electricity and steam, at a substantially reduced cost, estimated to save Harrison over $22 million dollars in base operating cost over the next ten (10) years.

The population and employment base has expanded from 1970 of 8200 people to 16,525 as reported in the 1990 census. Though this is a tremendous rate of growth, it is still a modest total volume. Lockport certainly does not compare to the "boom towns" of Texas, California or Florida which have grown at out-of-control rates.

The average cost of new residential housing has risen from about $40,000 to $120,000 during that period. Still very affordable when compared nationally and even regionally.

The private investment has been leveraged with some Federal and State dollars amounting to less than $15 million dollars. This represents about a 12 to 1 private to public leverage ratio.

$20 million public dollars have been invested in sanitary sewerage, $10 million dollars in water systems and roughly another $10 million dollars in roads, bridges and drainage improvements. The Town through its local Industrial Development Agency has acquired over 200 acres of land and phased in improvements to attract new industries to its Industrial Park at no direct cost to the residents and taxpayers.

All of this has been done during the last 24 years with no tax for general town services. This included two major recessionary periods and the extremely high inflationary period of the 1970's.

The Town of Lockport has a very balanced housing program including a mix of 3500 single family homes ranging from $60,000 to well over the $200,000 range, 1400 mobile homes in upscale modernized mobile home parks ranging from $15,000 to $70,000 in value and about 1200 multiple family apartment units including over 200 income subsidized units, 50 elderly subsidized intermediate care facilities for the handicapped, 1 and 2 bedroom apartments in the $240 to $340 per month rental range, up to a mix of moderate and luxury apartments in excess of the $450 per month range and up. The market has recently been tested for condominiums in the $70,000 to $120,000 class with mixed success.

There are no blighted areas in the Town of Lockport.

The Town is served by five school districts, growth has kept pace with space. All the districts are making capital investments into repairs and renovation. Only the Lockport City School District has recently invested in increasing and expanding their school room space to accommodate a middle school program. Yet please note that at the same time the student population of that district has just returned to the same level as it was in 1970, 20 years ago.

The picture: a well-balanced, well-controlled, well-managed and fiscally responsible, healthy community. What a novel experience in this day and age. Lockport is a great place to live and work. Demographically and socially balanced for the young and old, skilled and unskilled, rich and poor.

What does this have to do with wetlands regulation? Simply stated, the intrusion of another layer of regulation, outside of local control.

In the middle of 1990, we first became aware of the Corps of Engineers new role in wetland enforcement. Suddenly orders were being handed down, to cease and abate construction in developments throughout Western New York. In the Towns of Grand Island, Pendleton, Amherst and on and so forth.

To make bad matters worse, late in 1990 New York State, through the Department of Environmental Conservation, in an effort to emulate the Federal Regulations, introduced State Regulation changes to the public hearing process with similar form. Already locally sensitive to the DEC's enforcement power and bureaucracy, the local development and agricultural interests almost revolted when a public hearing was called here in Lockport. Things could only get worse!

Let's reexamine realistically the threat in terms of the soils scenario.

As a result of the New York State 1975 Fresh Water Wetlands Act, wetlands were mapped, many were field-identified, landowners were notified and appeals were allowed to be made. In the Town of Lockport this amounted to about 700 acres.

The Federal Wetland Inventory maps by the U.S. Fish and Wildlife Service were prepared as a similar task. Please note, the two mapping systems don't always agree, or often don't even resemble one another, yet this added another 200 acres. FEMA had mapped the flood plains, so at the local government level we had a good and reasonable handle on the "known" conservation protection areas.

These were even included in the Towns 1980 Master Plan Update (Exhibit 2) and were noted when developers approached the staff, the Town Board, the Planning Board or Zoning Board of Appeals for site plan or zoning reviews. The Flood plain and Wetlands maps were available and are on display. Applicants and owners could be made aware.

With the addition now of the soil classes, the jurisdictional boundary issue increased from 16% percent of the Town land area (Exhibit 3) to 65% percent almost immediately (Exhibit 4). That was a 400% percent increase in the jurisdictional potential. Suddenly 2/3 of the Town land was in jeopardy of regulation under the Federal Wetlands program. The difference all falls in the realm of the interpretation of the soils.

This condition is typical of the surficial geology of Western New York and also upstate New York and into the State of Pennsylvania, as a matter of fact. This soil issue specifically is 1)What has raised the serious concerns and 2) Causes the confusion and uncertainty at all levels.

Let's cite some specific examples as they have been experienced in the Town of Lockport.

1. A 20 lot subdivision adjacent to a State mapped wetland but not an area mapped on the Federal Wetland Inventory. This is a known problem area. It is on the upland end of a very sensitive drainage area which has been known to cause flooding downstream.

    a) When the State DEC three years ago, approached the site they declared there would be no use within the 100 foot limit buffer area around the field established wetlands.

b) DEC said No to the option of enhancing the wetland to utilize it as a beneficial drainage area under the No Net Loss Policy.

c) Under Federal Jurisdiction, 2 independent professionals could not agree on the boundaries to be determined by soils or hydrology and vegetation in total.

d) The Corps of Engineers raised the concern about the possibility of the existence of a violation and therefore penalties due, for having placed some fill material from the adjacent project land, 3 years ago, before anyone was even aware of the extent of the Corps jurisdiction.

The conclusion, after 3 years delay, most of the delay due to the developers uncertainty, and the last 6 months of aggressive pursuit, the Corps of Engineers granted a permit for a plan to construct 14 to 15 units. The added cost to the project is about $12,000, a loss of $350,000-$500,000 of income, not including the carrying cost of the 4 year delay.

The discrepancy involved was over the interpretation of where the wetland boundary actually was to be moved more or less, within 100 feet.

The second example is a 71 lot subdivision on about 60 acres of land. This plan is for single family homes in the $90,000 to $110,000 class bracket. Project is currently delayed, strictly due to the appearance of soils with potential hydric inclusion. The site is not encumbered by any mapped jurisdictional wetlands or floodplains. After careful review field analysis by a professional; no state jurisdiction, but 1.2 acres of Federal Jurisdiction Wetland, mostly along an existing drainage ditch which had not been sufficiently maintained within the last 10 years and a small pocket wetland of about 0.3 acre. The project has been delayed. A permit has been applied for and is pending at this time. The result, construction has been delayed one construction season due strictly to the Federal Wetland Regulations. 2 lots have been altered to avoid the 0.3 acre wetland reducing their salability and value.

The third example is several in mass. Currently, permits and approvals have been suspended at the Town level on 15 applications accounting for over 660 lots, 111 apartments and 1200 mobile home lots. Two projects missed the 1990 construction season. About 7 or 8 will likely be delayed until late in the 1991 construction season until wetland permit issues, seasonal field delineation and further planning can be accomplished. Two projects may be indefinitely suspended or likely even abandoned due to the Federal Wetland Regulations and their requirements. The process has added 2 months to 6 months lead time to determine marginal at best, wetland areas and permissible mitigation measures to the proposals.

We ask you to examine our exhibits, which I testify to be accurately represented, where the mapped wetlands fall dominantly, in excess of 90%, within the hydric soil type (red). Less than 10% fall within the soils with potential hydric inclusions (yellow), and are very marginal. Does the regulation make sense?

All Hydric soils are not wetlands. In fact , our local experience indicates, less than half are. Only a very small portion of soils with potential hydric inclusions are (Exhibit 5). Less than 10% of the land meeting the soils criteria, alone, have been identified as wetland. If valuation is applied, 2% meet habitat criteria.

Our recent experience has been that the new wetlands identified outside of the existing mapped areas are typically along drainage ways, pockets of less than 1 acre, and of very marginal ecological benefit. Yet, they "will" need to be avoided at added cost in time and value.

Our point very simply stated is that, the current regulation expands the "wetlands" jurisdiction needlessly by >400%, exposing 2/3 of the Town and Regional land area to the full review needed to determine if the Corps permits are even applicable.

Almost all of the local agencies have adopted the policy of "no further review until the Federal Wetland jurisdiction has been formally determined" and its effect resolved.

In total this represents exposing $94 million dollars of construction, construction jobs, material manufacture and supply and a spin-off loss of $380 million dollars to the local economy in 1991, mostly of small business concerns.

These issues are significant!

And the latent question, where does the lenders liability fall, where loans are already in place, creating more S&L crisis concerns. Given all of this as background information we would like to close with the following recommendations:

1. The re-examination of the "No Net Loss" policy, or goal, and rounding-off the edges that are being interpreted literally and broadly.

2. Consider the valuation or classification of wetlands by function, size and support systems.

3. Map, identify and declare jurisdictional wetlands, with a limited time value relative to their dynamics, boundaries to be established in the field at the time of permitting and action.

4. Eliminate the duplication in State's where they have the staff and expertise resources available.

5. Consider a more realistic minimum acreage limitation such as 10 acres. New York State uses a 12.4 acre minimum determination in size which happens to be 1 metric acre.

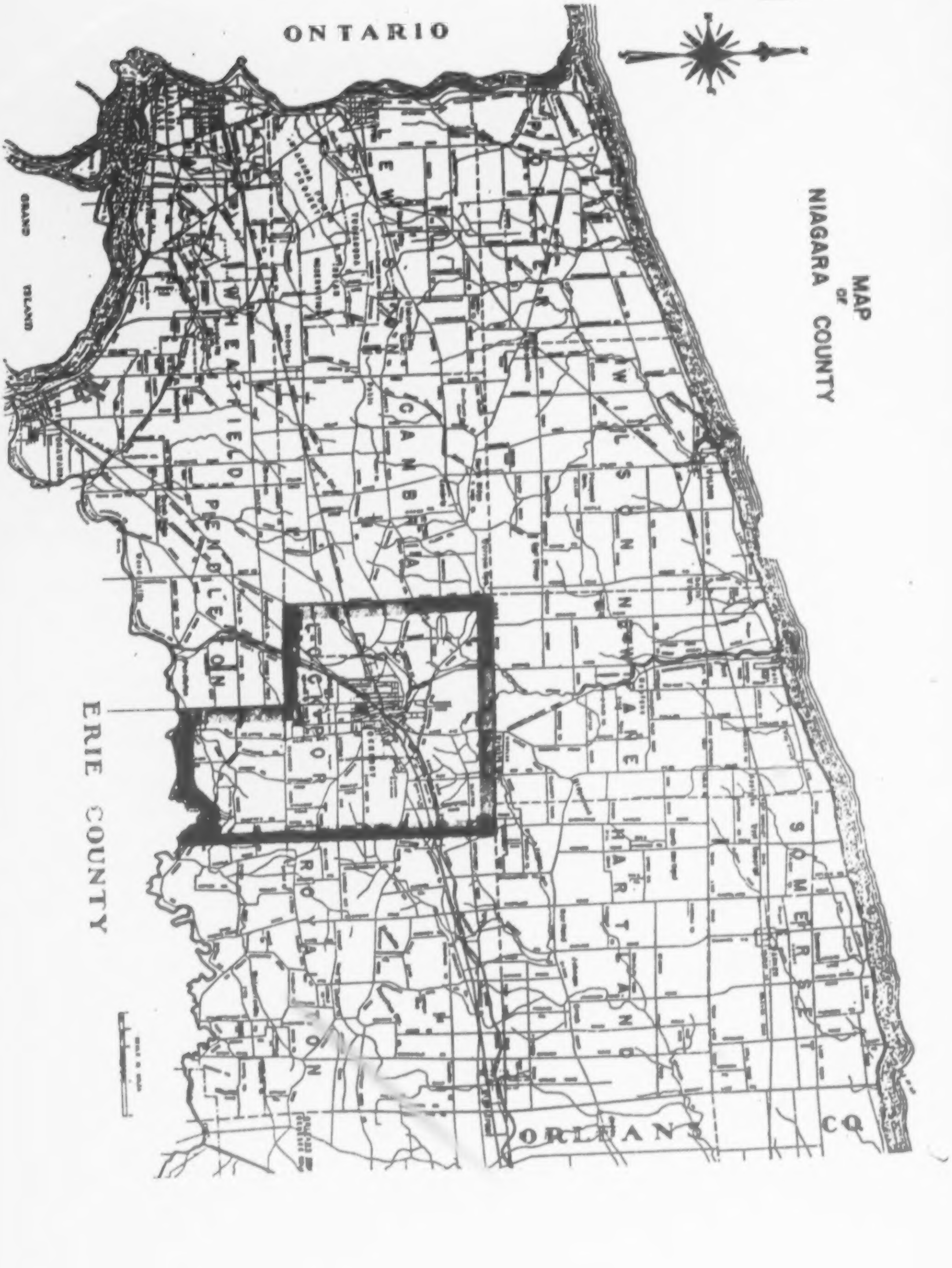
6. Allow for the provision of a transfer of development rights land use control scheme, when applicable at the local government level.

7. Allow a local drainage plan and program exemption for existing ditching systems.
8. Eliminate the soil type condition for soils with potential hydric inclusions.
9. Provide the agricultural exceptions where applicable in the past.

Thank you for your attention and consideration. We hope our input has been informative and will assist you in deliberating this matter.

LIST OF EXHIBITS

1. Location Map - Niagara County
   - Town of Lockport
2. Town of Lockport - Master Plan - 1980
3. Wetland/Flood Plain Map
4. Soils Sensitivity Map - Wetlands
5. Jurisdiction vs. Value


ONTARIO
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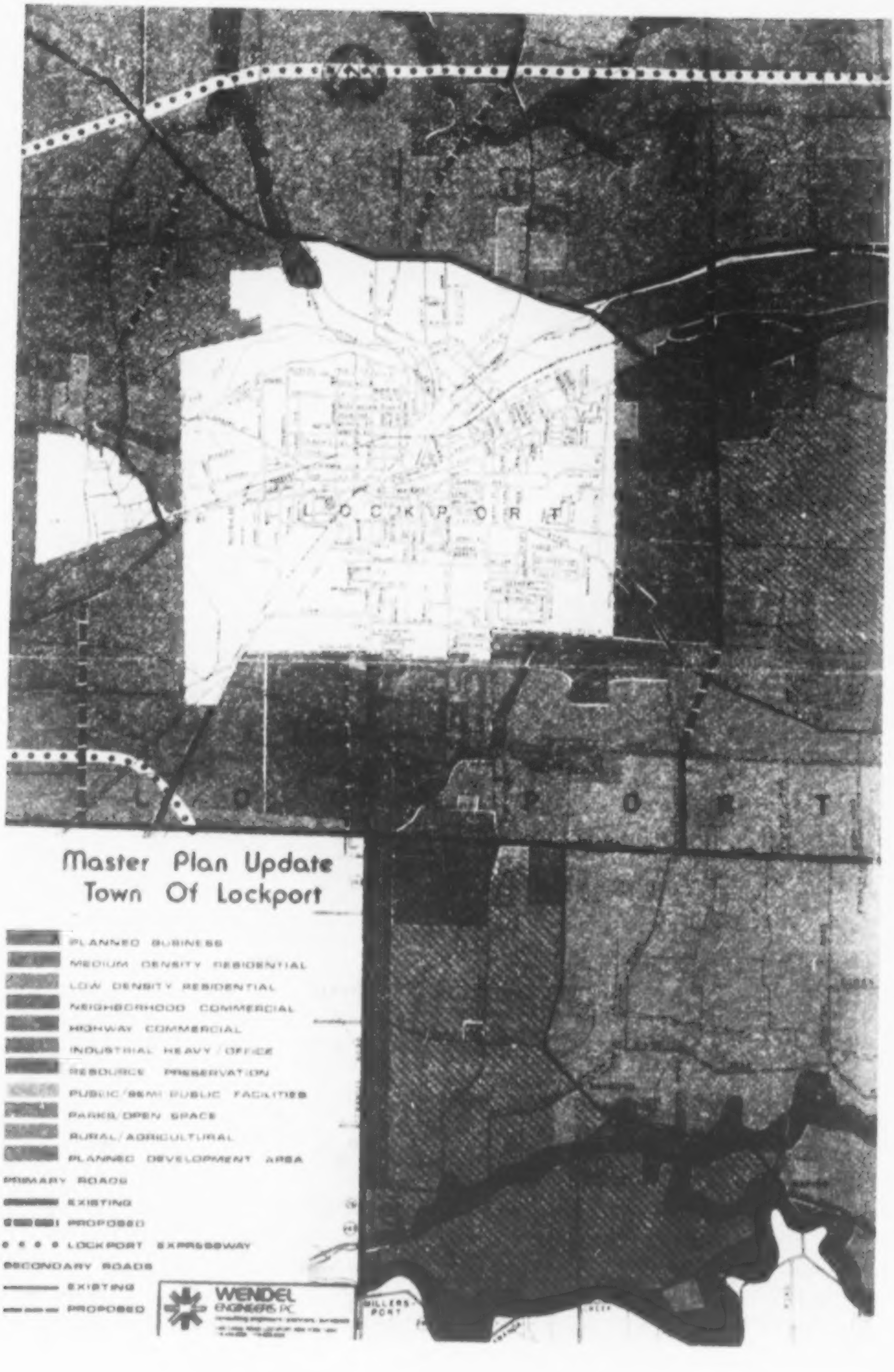
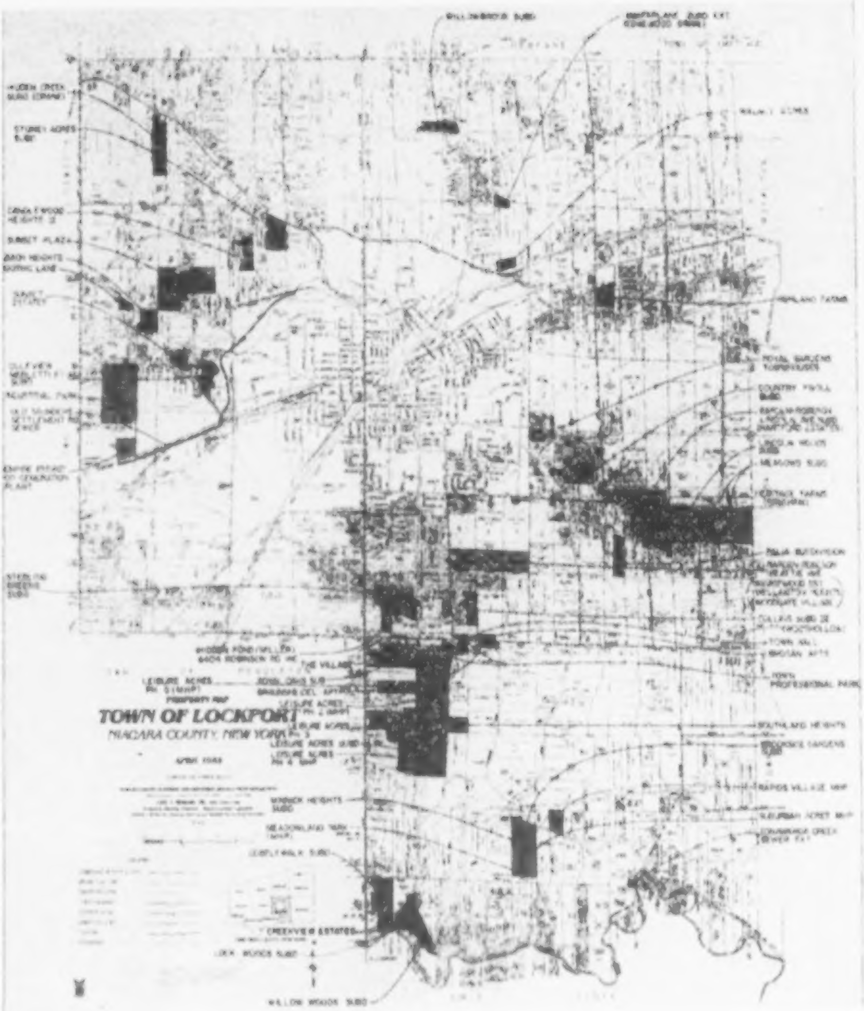
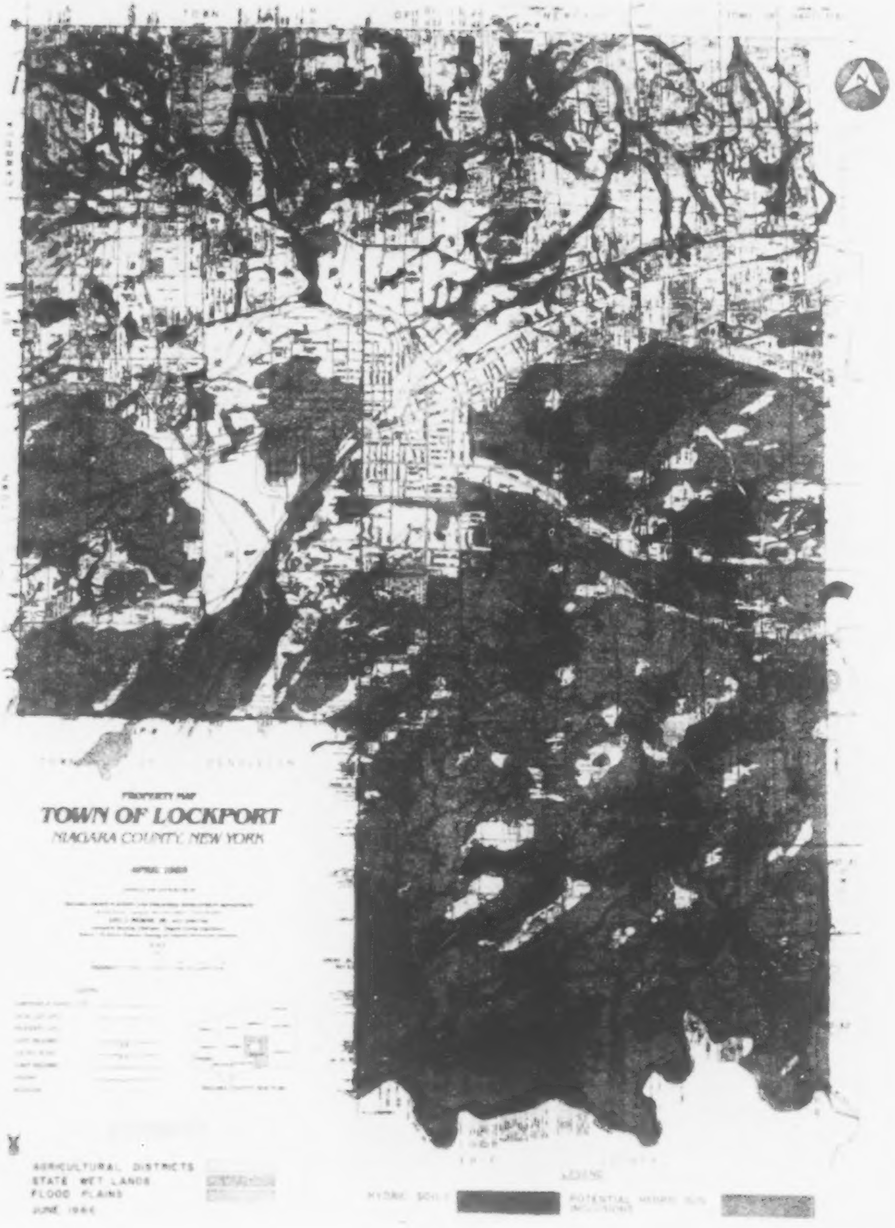
ERIE COUNTY
ORLEANS CO


L O C K P O R T
L O C K P O R T
Master Plan Update
Town Of Lockport
PLANNED BUSINESS
MEDIUM DENSITY RESIDENTIAL
LOW DENSITY RESIDENTIAL
NEIGHBORHOOD COMMERCIAL
HIGHWAY COMMERCIAL
INDUSTRIAL HEAVY / OFFICE
RESOURCE PRESERVATION
PUBLIC/SEMI PUBLIC FACILITIES
PARKS/OPEN SPACE
RURAL/AGRICULTURAL
PLANNED DEVELOPMENT AREA
PRIMARY ROADS
EXISTING
PROPOSED
LOCKPORT EXPRESSWAY
SECONDARY ROADS
EXISTING
PROPOSED
WENDEL
ENGINEERS P.C.
MILLERSPORT


WILLOWBROOK SUBD
STONEY ACRES SUBD
SUNSET PLAZA
WALNUT ACRES
ROYAL GARDENS TOWNHOUSES
COUNTRY KNOLL SUBD
LINCOLN HEIGHTS SUBD
MEADOWS SUBD
TOWN HALL
TOWN PROFESSIONAL PARK
SOUTHLAND HEIGHTS
SUBURBAN ACRES
THE VILLAGE
LEISURE ACRES
PROPERTY MAP
TOWN OF LOCKPORT
NIAGARA COUNTY, NEW YORK
MEADOWLAND PARK
CREEKVIEW ESTATES
WILLOW WOODS SUBD


PROPERTY MAP
TOWN OF LOCKPORT
NIAGARA COUNTY, NEW YORK
AGRICULTURAL DISTRICTS
STATE WET LANDS
FLOOD PLAINS
JUNE 1986
LEGEND
HYDRIC SOILS
POTENTIAL HYDRIC SOIL INCLUSIONS

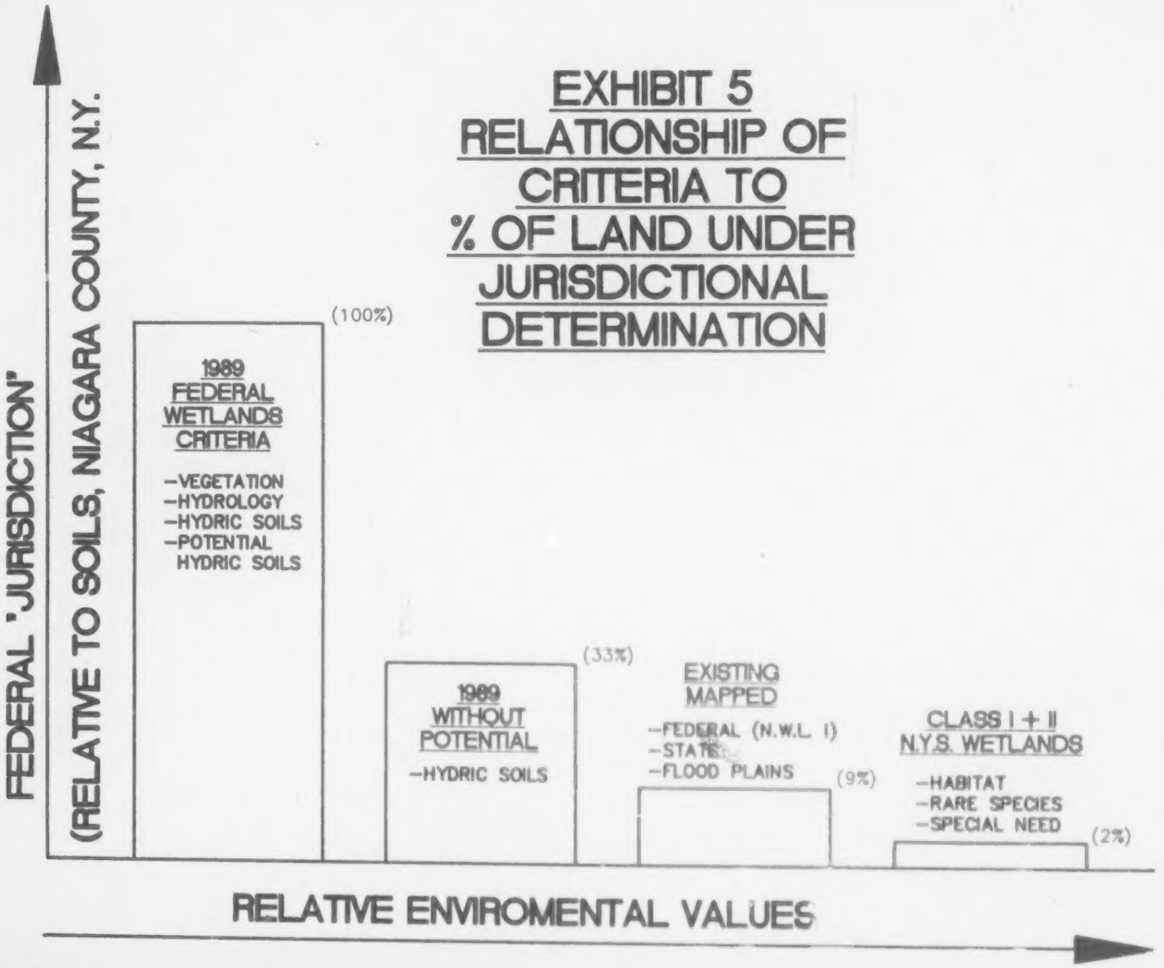


EXHIBIT 5
RELATIONSHIP OF CRITERIA TO % OF LAND UNDER JURISDICTIONAL DETERMINATION

6

WEBER REALTY

9200 NIAGARA FALLS BLVD.
NIAGARA FALLS, N.Y. 14304-0312

OFFICE: (716) 297-9200
FAX: (716) 297-5924

JOSEPH C. WEBER III, REALTOR
LICENSED BROKER - OWNER

COPY

December 18, 1990

Mr. Thomas C. Jorling, Commissioner
NYS Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233

Dear Commissioner Jorling,

As a property owner, taxpayer and developer I am very much concerned with the DEC's extension of wetland regulations. I share with you a deep concern for the protection of our environmental assets but I also feel that the creation of new regulations without the legislative process is beyond the scope of authority of your department. The Federal EPA policy as enforced by the U.S. Army Corps of Engineers is in my opinion a serious violation of States rights and the extension of that policy by state government is a serious infringement on the rights of individual property owners.

Having read the anticipated changes in the DEC "RULE" I am convinced that these changes should be reviewed by the legislative process to determine first the constitutional impact and secondly the major economic consequences of following the Federal standards. I am also convinced that there will be major litigation over the implimentation of new policy.

The net result of the use of new methods of delineation will create an additional layer to the permitting process and additional time delays to projects whose main objective is to provide decent housing for the residents of the State. I encourage you to delay any action on implimentation until there has been an opportunity for legislative review. Thank you for your consideration.

JOSEPH C. WEBER III
PRESIDENT
WEBER REALTY

cc. Senator John Daly
Assemblyman Joseph Pillitere
Assemblyman Matthew Murphy

Brody Submission No. 1

Albert V. Randaccio Builder, Inc.
Builder — Developer
5184 Sheridan Drive
Williamsville, New York 14221
634-9444

January 9, 1991

JAN 11

David A. Brody, Esq.
Pack, Hartman, Ball & Huckabone, P.C.
230 Brisbane Building
Buffalo, New York 14203

Dear Dave:

In confirming our conversation of today's date regarding my proposed development in Clarence, New York, this letter shall set forth the setbacks and problems I have encountered due to the wetlands considerations.

I have acquired land in Clarence, New York for the development and construction of approximately 200 detached patio villa units. I retained wetlands consultants for a site delineation approximately 6 months ago. The total wetland acreage at the site was found to be .78 acres of which I am proposing to fill only .18 acres in order to construct an access road to the development. The .78 acre of wetland is at the northerly boundary of my property and I only need to fill .18 acres of same to construct the entry road to the entire project.

My consultants have filed the necessary documents with the U.S. Army Corps of Engineers in mid-October and I am still awaiting the necessary approval from the Corps of Engineers. This seems to me quite ridiculous as I am only proposing to construct an access road and fill .18 acres of alleged wetland in doing so. The balance of the rather large site is totally free and clear of wetlands, however, the entire project has been held up as a result of recent developments in the wetlands regulations area.

I was ready to commence construction last summer and now have been informed by my sewer contractor that the price for improvements will be increasing approximately 10%, my financing is now more tentative and the resultant delays in construction have, of course, cost my company money. We have all necessary town and other approvals necessary to commence construction, however, the delay caused by the wetlands regulations have this project at a standstill.

If you have any additional questions, please contact either myself or our attorney, Brad F. Randaccio at Saperston & Day, P.C.

Thank you for your concern.

ALBERT V. RANDACCIO BUILDER, INC.

By: ______________________________
President

Brody Submission No. 2

_______ PLEASE CHECK THIS SPACE IF YOU WANT TO MAINTAIN CONFIDENTIALITY. WE STRONGLY URGE YOU TO ALLOW US TO USE YOUR NAME AND PROJECT PUBLICLY AS THE IMPACT WILL BE MUCH GREATER, BUT UNDERSTAND IF YOU DO NOT WISH TO DO SO.

1) NAME OF PROJECT LIMESTONE OFFICE PARK

2) LOCATION -- TOWN AND COUNTY, OR ADDRESS IF CONFIDENTIALITY IS NOT REQUIRED

6475 MAIN STREET
Williamsville, New York
Town of Amherst

3) CONTACT PERSON AND PHONE NUMBER (WE MAY BE CALLING TO GET ADDITIONAL INFORMATION)

John E. Cerio, General Partner
(716) 632-6946

4) DESCRIBE THE PROJECT: (MAPS, SURVEYS, PHOTOS WOULD BE HELPFUL. YOU MAY USE ADDITIONAL PAPER AS NEEDED.)

Planned development of small class A office buildings offered primarily for sale. (See attached rendering and site plan.)

5) BRIEF NARRATION OF WHAT HAPPENED -- HOW WAS YOUR PROJECT AFFECTED BY THE CORPS OF ENGINEERS? (PLEASE PROVIDE DETAILS AND FEEL FREE TO USE ADDITIONAL PAPER AS NEEDED) PLEASE INCLUDE DETAILS LIKE: WHEN DID YOU FIRST FIND OUT A PERMIT FROM THE CORPS WAS REQUIRED? HAS YOUR PROJECT BEEN STOPPED BY THE CORPS? HOW? WHAT WAS/IS THE TIME FRAME FOR CORPS ACTION? WHAT EFFECT HAS THE CORPS' ACTION HAD ON YOUR BOTTOM LINE -- NUMBER OF JOBS LOST, ADDITIONAL COSTS, PLEASE DETAIL. HAVE YOU BEEN REQUIRED TO MAKE CHANGES TO YOUR PROJECTS? IF SO, DESCRIBE?

See attached sheet

6) WHAT EFFECT HAS IT HAD ON YOUR PLANNING FOR FUTURE PROJECTS? PLEASE TELL US HOW YOUR PLANNING PROCEDURES WERE CHANGED -- PROJECT TIME TABLES, PRICING, ETC.

See attached sheet

PLEASE INCLUDE ANY ADDITIONAL INFORMATION THAT YOU FEEL MIGHT BE USEFUL.

5. Once all town approvals were received the bids for the road and utilities were let and responses received to accommodate a September 18th ground breaking. Approximately 10 days prior to the 18th the County sent a letter saying that the site had soil types with potential hydric inclusion and that they would not issue permits for sewer or water until they received written clearance from the Corps of Engineers that there are no wetlands on the site.

   Because of the difficulty of getting a qualified soils engineer and have the required delineation, survey and resulting reports prepared, the filing of our application to the Corps will be done on January 17th. We are now faced with a two to six month period waiting for the Corps clearance even though the report shows only a .534 acre wetland. We have two signed sales agreements to construct buildings for uses that can't be started until the Corps sign off.

   Other implications:

   - $7,000 plus monthly interest costs on the land purchase (which we were forced to proceed with since the land contract had no contingency for review by the Corps);

   - no work on the road, utilities and other requested infrastructure could begin;

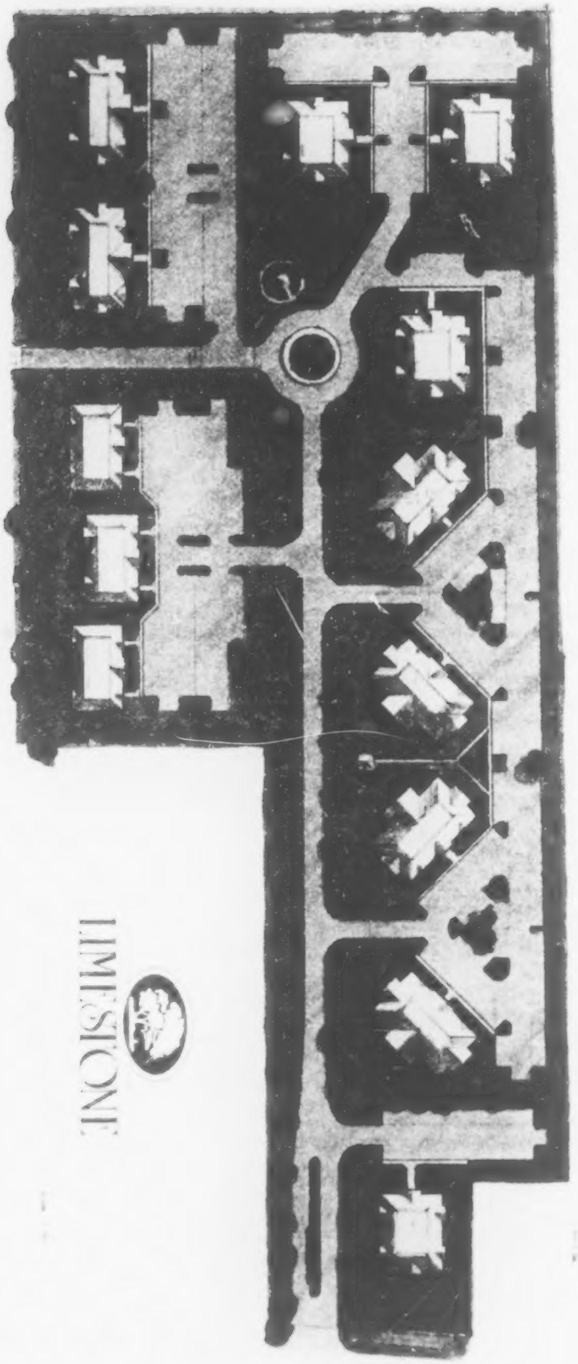
   - delay in beginning building construction from November 15th until June 15th;

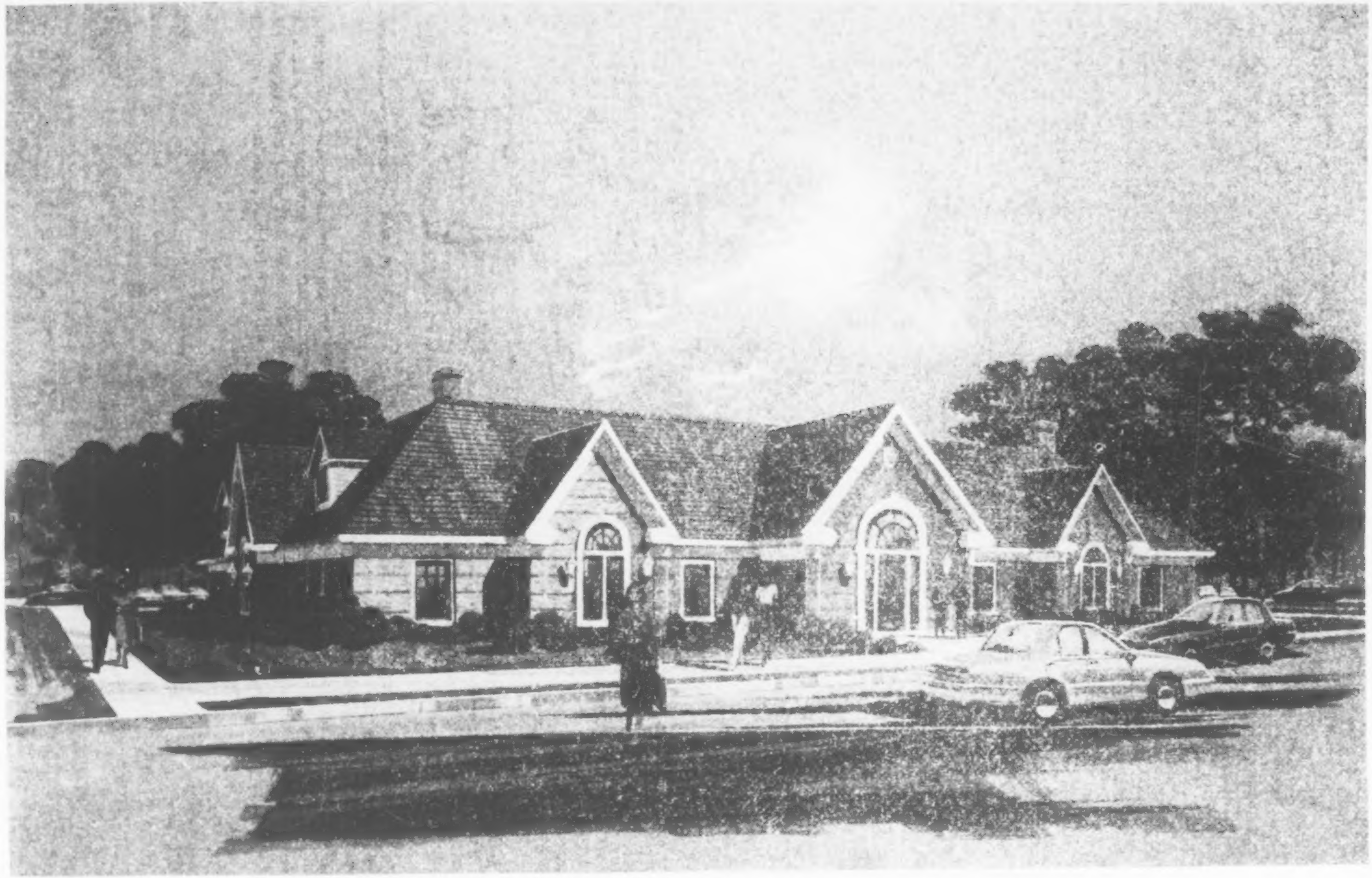
   - delay in the IDA's inducement of the project until clearance from Corps is received; may impact on benefit received because of changing IDA policies on benefits;

   - offsetting revenues from progress payments on building not received;

   - uncertainty in when building could be completed and ready for occupancy.

6. Future projects now require added contingencies in purchase contracts, a review of the County soils study to determine soils types and in some cases a review by an engineer. Large projects for the area are now being put on hold in favor of projects in other geographical areas.


LIMESTONE



Brody Submission No. 3

______ PLEASE CHECK THIS SPACE IF YOU WANT TO MAINTAIN CONFIDENTIALITY. WE STRONGLY URGE YOU TO ALLOW US TO USE YOUR NAME AND PROJECT PUBLICLY AS THE IMPACT WILL BE MUCH GREATER, BUT UNDERSTAND IF YOU DO NOT WISH TO DO SO.

1) NAME OF PROJECT WHISPERING MEADOWS SUBDIVISION.

2) LOCATION -- TOWN AND COUNTY, OR ADDRESS IF CONFIDENTIALITY IS NOT REQUIRED GRAND ISLAND N.Y. ERIE COUNTY
STONY POINT ROAD BETWEEN HUTH & RANSOM RD.

3) CONTACT PERSON AND PHONE NUMBER (WE MAY BE CALLING TO GET ADDITIONAL INFORMATION)

RICHARD J. LENT JR. 876-7816
875-8447

4) DESCRIBE THE PROJECT: (MAPS, SURVEYS, PHOTOS WOULD BE HELPFUL. YOU MAY USE ADDITIONAL PAPER AS NEEDED.)

80 ACRE SUBDIVISION
66 PROPOSED LOTS.
33 ACRES GREEN SPACE.
SEE ATTACHED SHEETS A, B, C, D

5) BRIEF NARRATION OF WHAT HAPPENED -- HOW WAS YOUR PROJECT AFFECTED BY THE CORPS OF ENGINEERS? (PLEASE PROVIDE DETAILS AND FEEL FREE TO USE ADDITIONAL PAPER AS NEEDED) PLEASE INCLUDE DETAILS LIKE: WHEN DID YOU FIRST FIND OUT A PERMIT FROM THE CORPS WAS REQUIRED? HAS YOUR PROJECT BEEN STOPPED BY THE CORPS? HOW? WHAT WAS/IS THE TIME FRAME FOR CORPS ACTION? WHAT EFFECT HAS THE CORPS' ACTION HAD ON YOUR BOTTOM LINE -- NUMBER OF JOBS LOST, ADDITIONAL COSTS, PLEASE DETAIL. HAVE YOU BEEN REQUIRED TO MAKE CHANGES TO YOUR PROJECTS? IF SO, DESCRIBE?

6) WHAT EFFECT HAS IT HAD ON YOUR PLANNING FOR FUTURE PROJECTS? PLEASE TELL US HOW YOUR PLANNING PROCEDURES WERE CHANGES -- PROJECT TIME TABLES, PRICING, ETC. BECAUSE OF THE CORPS AND THIS SITUATION
I MAY NEVER AGAIN PLAN A DEVELOPMENT

PLEASE INCLUDE ANY ADDITIONAL INFORMATION THAT YOU FEEL MIGHT BE USEFUL.

** TOTAL PAGE.003 **

When in 1988 I first looked to purchase the property I had determined that 130 lots would fit on this 80 acres. When I realized there was a designated wet land I had the owner have the D.E.C. delineate it to determine weather it was usable or not. With the D.E.C. delineation the engineers plotted the road and lots and determined it was usable. We started forward on engineering and I purchased the land originally for $80,000.00for all land outside of wet land area. I then agreed to pay an additional $20,000.00 for the wet land area to keep it natural and use it as a nature preserve for the residence to enjoy. The town did not want the wet lands as dedicated green space so I allowed an additional 6 acres of not wet land as green space.

I closed on the land for purchase June 30, 1989. Original plans and specs were submitted to D.E.C. and Town of Grand Island on March 14, 1989. Preliminary approval on the total subdivision plan was given May 8, 1989.

Conditional approval on the first phase granted March 5, 1990.

Final approval and map cover filed for first phase June 6, 1990.

D.E.C. approval for sewers for the first phase was given May 4, 1990.

Began construction on first home May 4, 1990.

First heard of Corps of engineering being involved September 11, 1990 and went to see them September 18, 1990 and submitted plan for them to look over. They sent me back (attached copy) a letter saying to go no further. The Corps said they did not agree with the D.E.C. delineation and that I would have to do a corps delineation and survey so they can determine the extent of wet lands. They would also conduct thier own study to determine if we had impacted the wet land already.

I called Suzan Chubbs and asked her what she thought was the possibilities. She said that from her visit and observations she thought four out of the first seven lots are wet lands. At this point I stopped everything because I was so confused. Of the front seven lots, all seven are sold and two are built on. I was hoping to have a portion of the road in by the end of 1990. I had pending contracts on two $200,000.00 homes that are now cancelled.

I do not have another $15,000.00 to $20,000.00 to do a total delineation and survey just so they can say no. In the mean time I have a $1,000.00 a month payment on the land and $4,000.00 per year in taxes. These rulings have put me in a position of possibly filing bankruptcy or hoping that the previous owner will take it back. Because of the hold ups,delays and finally stoppage, engeneerings fees down payments, etc. my brother and I have refinanced our homes and have gone from being a builder/developer with full complement of sub trades and up to eight employees to being a two man remodeling contractor.

Because of these rules as they go agencies I will not be developing or building in the future at all. I can not take that chance again.

This project without wet lands:

130 homes @ $160,000.00 = $20,800,000.00
@ 70% assessment taxes = $480,480.00 /yr.
Over three to four years this will eliminate at least $16,000,000.00 in local jobs and materials lost.

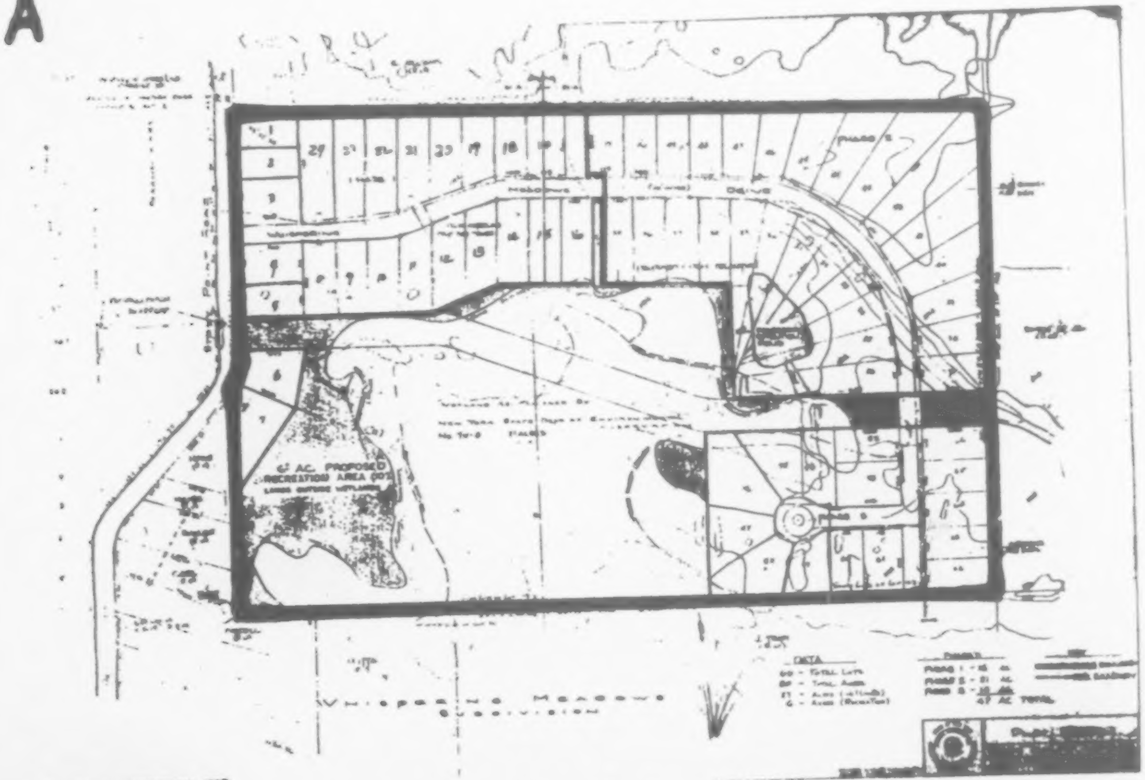
If only D.E.C. wet lands as planned:

66 homes @ $200,000.00 = $13,200,000.00
@ 70% assessment taxes = $304,920.00 /yr.
Over three to four years this will eliminate at least $11,000,000.00 in local jobs and materials.

This does not consider jobs and services already lost because of strains put on all contracts to date.

I feel the Corps of Engineers is a major cause for our economic slow down today.

A

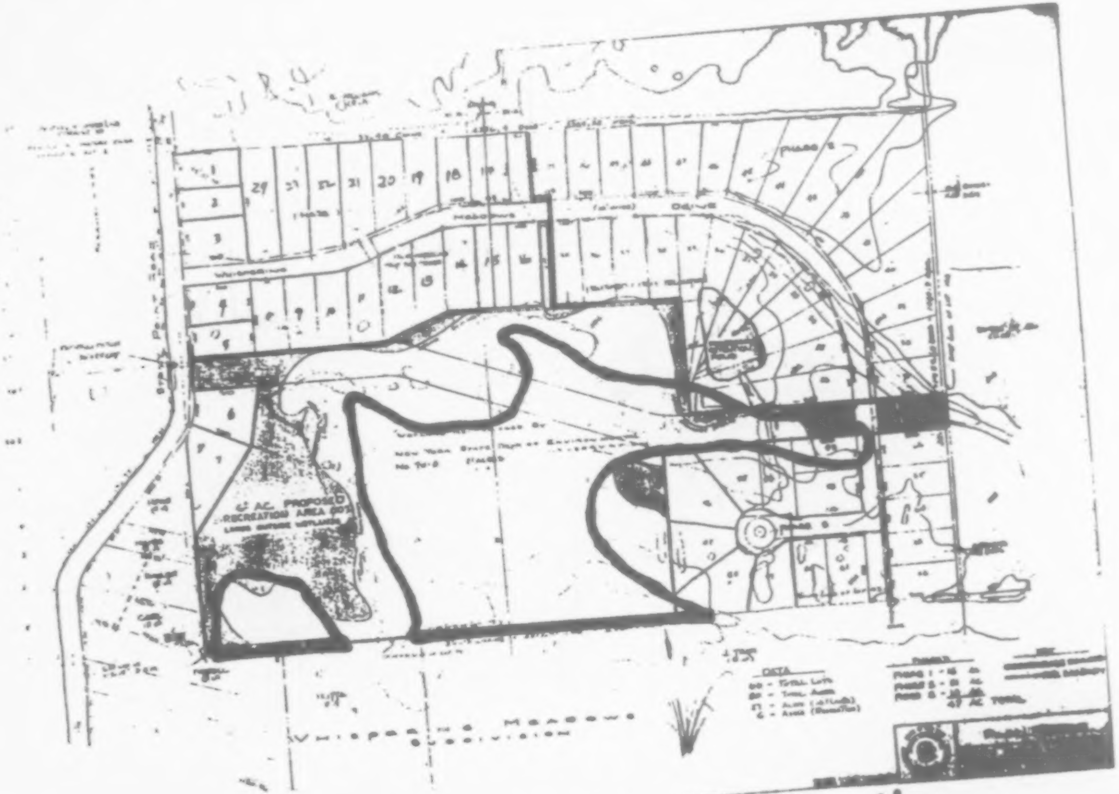

6± AC. PROPOSED
RECREATION AREA
DATA
TOTAL LOTS
TOTAL ACRES
PHASE 1
PHASE 2
PHASE 3
47 AC TOTAL
Whispering Meadows
Subdivision
Meadows
Drive
27
28
31
29
19
18
16
15
12
13
3
6
7

LENT CONSTRUCTION, INC.
P.O. Box 4212
KENMORE, NEW YORK 14217

[illegible]

Total Subdivision 80 Acres

B

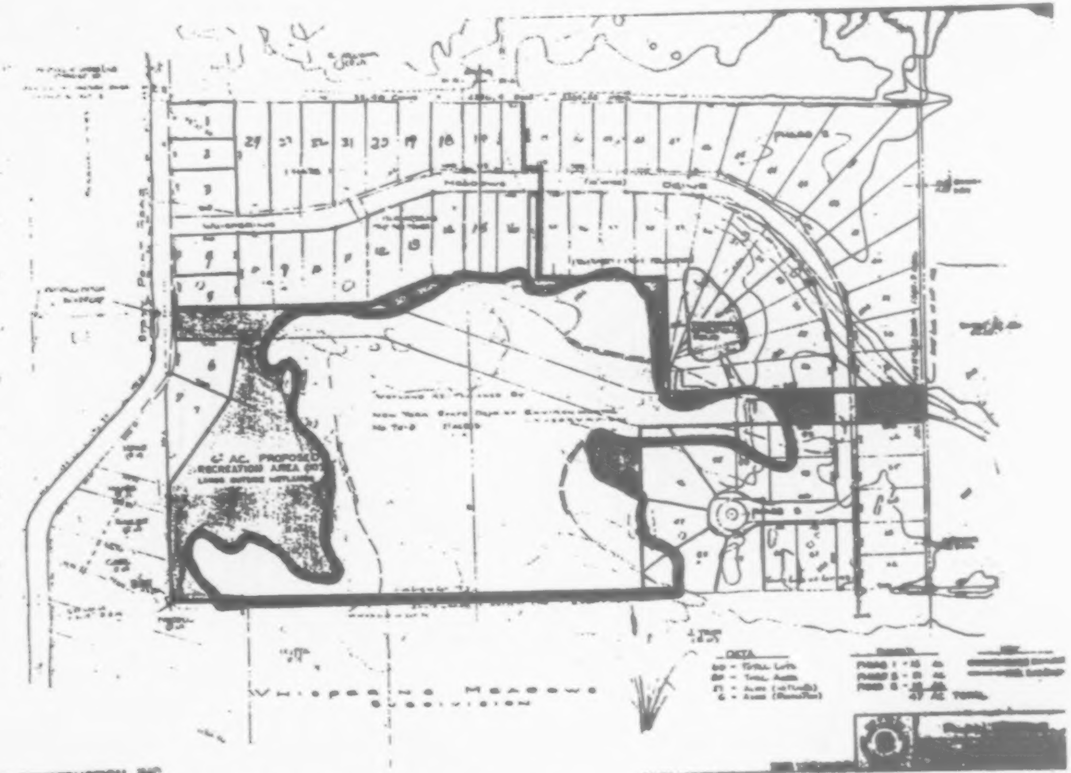

PROPOSED RECREATION AREA
DATA
Whispering Meadows Subdivision

LENT CONSTRUCTION, INC.
Box 4212
KENMORE, NEW YORK 14217

Town Master Plan: Wetland Delineation

87-281/6

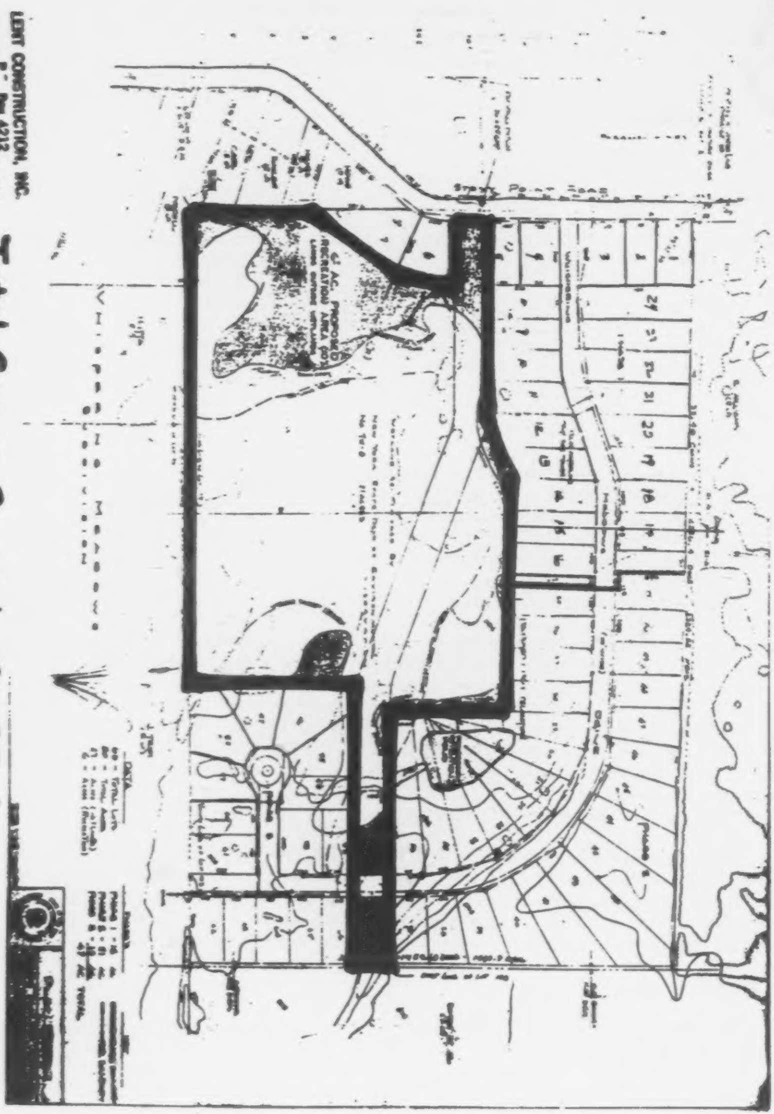
C


27
31
19
18
1
2
3
AC. PROPOSED
RECREATION AREA
Whispering Meadows
Subdivision
DATA
47 AC. TOTAL

LENT CONSTRUCTION, INC.
P Box 4212
KENMORE NEW YORK 14217

DEC Delineation as of June 30th

D



LENT CONSTRUCTION, INC.
P.O. Box 4212
KENMORE, NEW YORK 14217
876-2816

Total Green Space Left 33 Acres

DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

REPLY TO
ATTENTION OF

November 26, 1990

Regulatory Branch

SUBJECT: Return of Department of the Army Permit Application No. 90-976-193

Mr. Richard Lent
Lent Construction, Inc.
P.O. Box 4212
Kenmore, New York 14217

Dear Mr. Lent:

This is in regards to your application submitted September 18, 1990 on the proposed Whispering Meadows subdivision in the Town of Grand Island, Erie County, New York.

Pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), a Department of the Army permit would be necessary prior to any alteration to or work in a wetland or water of the U.S.

A site visit, on November 15, 1990, revealed additional federally regulated wetland areas outside of the state wetlands. To accurately determine the presence and extent of all federal wetlands on the project site, I recommend that you have a wetland delineation performed in accordance with the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands", January 1989. The federal delineation manual is available from the U.S. Government Printing Office for $7.50 by calling (202)783-3238, Stock Number 024-010-00-683-8.

During the site visit, it was also noted that work had started on lots 5 and 6. The wetland delineation must address the issue of whether federally regulated wetlands existed on those lots, and if so, the extent of impact that has occurred. Further landclearing or construction activities outside of lots 5 and 6 should be halted until we have completed our review of the proposed project.

A complete delineation report, with plan and cross-section views of the proposed project, should be submitted to this office for review. Project revisions may be necessary prior to resubmittal in order to limit total wetland impacts to less than one acre.

Regulatory Branch
SUBJECT: Return of Department of the Army Permit Application No. 91-976-193

Questions pertaining to this matter should be directed to Suzanne Chubb, who can be contacted at 716-879-4323, or by writing to the above address.

Sincerely,

for John W. Morris
Colonel, U.S. Army
Commanding

Enclosures

Under procedures followed by this office, an area is determined to be a freshwater wetland if it is occupied by vegetation that is typically adapted for life in saturated soil conditions and also contains soils and hydrologic conditions that are indicative of prolonged inundation or saturation with surface or ground water. Except for certain atypical situations, all three parameters of soil, vegetation, and hydrology must be present for an area to be delineated wetland. Based on a review of your permit application and in-house resources, it appears that certain areas on your site have the potential to contain Federally regulated freshwater wetlands. However, since specific information on vegetation, soil and hydrology is lacking it is not possible for this office to make a determination of the exact wetland boundary or the extent of wetland filling involved in your proposal. For a more precise boundary of the wetland areas to be affected by filling, I recommend that you have a delineation of the wetland boundaries performed by a consultant experienced in such wetland delineations. Moreover, this delineation should be carried out in accordance with the procedures specified in the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands," January 1989 an Interagency Cooperative Publication of the U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, Soil Conservation Service and U.S. Army Corps of Engineers.

The manual is available from the U.S. Government Printing Office for $7.50 by calling A.C. 202, 783-3238, Stock Number 024-010-00-683-8.

A list of potential consultants for wetland delineations is available from this office. While the Corps does not endorse any particular consultant or firm and although the list is not all inclusive, it does contain the names of firms that have indicated they are willing to delineate wetlands.

YOU CAN SAVE TIME AND MINIMIZE DELAYS IN THE EVALUATION OF YOUR PERMIT APPLICATION BY TAKING A FEW MOMENTS TO PROVIDE THE FOLLOWING INFORMATION:

1. Please give us the name of any agent, consultant or contractor that is involved in the work you would like to have permitted:

Name:____________________________________
Address:____________________________________
____
Telephone:____________________________________

2. We also will need the names and addresses of landowners that own property adjacent to your planned worksite. There may be more than two adjacent property owners, and if there are, you should include their names and addresses on the back of this sheet:

Name:____________________________________
Address:____________________________________
____
Telephone:____________________________________

Name:____________________________________
Address:____________________________________
____
Telephone:____________________________________

3. The address of the postmaster that delivers the mail at your planned worksite is also needed:

Address:____________________________________
____
____

4. Please provide the address of the Town or City Clerk where the proposed work is located:

Address:____________________________________
____
____
Telephone:____________________________________

5. Please provide the address of the office responsible for the issuance of building permits and land use zoning decisions at your project site:

Address:____________________________________
____
____
Telephone:____________________________________

YOUR COOPERATION IN PROVIDING THIS INFORMATION IS APPRECIATED

LIST OF
POTENTIAL CONSULTANTS
WETLAND DELINEATION
AND
MITIGATION PLANNING

Attached is a list of respondents to the Buffalo District notice, published in the U.S. Department of Commerce *Commerce Business Daily*, July 21-27 1989 edition, seeking individuals and firms willing to delineate wetlands and to design mitigation plans for activities or projects requiring a permit. In addition, others seeking to be placed on this list since the publication of the *Commerce Business Daily* have been included. The names on the list have been arranged alphabetically. Users of this list should note that it is not exhaustive or comprehensive and that other individuals and firms may be available to perform this type of work.

- WARNING -

THIS LIST IS PROVIDED AS A PUBLIC SERVICE *ONLY*. LISTING IN NO WAY CONSTITUTES OR IMPLIES RECOMMENDATION OF ANY RESPONDENT, ASSURANCE OF THEIR COMPETENCE OR EXPERIENCE, KNOWLEDGE OF THE *FEDERAL MANUAL FOR IDENTIFYING AND DELINEATING JURISDICTIONAL WETLANDS*, OR ANY AGREEMENT THAT THEIR WORK WILL BE ACCEPTABLE TO THE U.S. ARMY CORPS OF ENGINEERS. PROSPECTIVE CLIENTS SHOULD OBTAIN, AND CAREFULLY AND THOROUGHLY EXAMINE AND EVALUATE, THE CREDENTIALS OF ANY POTENTIAL CONSULTANT BEFORE CONTRACTING FOR THEIR SERVICES.

The public may purchase the Federal Manual for Identifying and Delineating Jurisdictional Wetlands manual from the Government Printing Office (GPO) by calling GPO at (202)783-3238. The GPO stock number is 024-010-00-683-8.

The price is $7.50, and it may be purchased by charging with a Visa or Master Card, Check or Money Order.

LIST OF CONSULTANTS AND CONTRACTORS

ACRES INTERNATIONAL CORPORATION
ACRT INCORPORATED
AFI ENVIRONMENTAL
ANDREW MARTIN ASSOCIATES, INC.
AULD ENVIRONMENTAL ASSOCIATES
BEAK CONSULTANTS INC.
BIOHABITATS INC.
BOWSER MORNER
BUCHART HORN, INC.
BUFFALO ENVIRONMENTAL CONSULTING ENGINEERS
CARPENTER TURNER GROUP, INC.
CH2M HILL
DAMES AND MOORE
EARTH INVESTIGATIONS LTD.
EARTH SATTELITE CORP.
EBASCO SERVICES, INC.
EDMISTON, DR. JOE A.
ELDON ENVIRONMENTAL MANAGEMENT CORP.
ENGINEERING-SCIENCE, INC.
ENVIRODYNE ENGINEERS
ENVIRONMENTAL CLEANUP ORGANIZATION
ENVIRONMENTAL CONSULTANTS
ENVIRONMENTAL DESIGN & RESEARCH, P.C.
ENVIRONMENTAL EXPLORATIONS
ENVIRONMENTAL FIELD SERVICES
ENVIRONMENTAL MITIGATION GROUP
ENVIRONMENTAL RESOURCE ASSOCIATES, INC.
EVERGREEN ENTERPRISES
F.X. BROWNE, ASSOCIATES, INC.
GEO SERVICES, INC.
GEONEX MARTEL, INC.
GREENHORNE & O'MARA, INC.
HAMILTON ECOSYSTEM ANALYSIS
HAUSER, DR. EDWARD J.P.
HAVENS AND EMERSON, INC.
HEADWATERS ENVIRONMENTAL SERVICES
HORIZON ENVIRONMENTAL SERVICES, INC.
HUNTER ENVIRONMENTAL SERVICES, INC.
ICHTHYOLOGICAL ASSOCIATES, INC.
IEP ENVIRONMENTAL CONSULTANTS
INTER-FLUVE, INC.
KAMBER ENGINEERING, INC.
LAKE ERIE BIOTEK WRITING AND RESEARCH CENTER
LARSEN ENGINEERS
LOUIS BERGER & A+SSOCIATES, INC.
LUDGATE ENGINEERING CORP.
LYON, DR. JOHN G.
MC DONNELL PROUDFOOT AND ASSOCIATES, INC.
MICROBAC LABORATORIES, INC.

NORMANDEAU ASSOCIATES, INC.
NORTHEAST GEOLOGICAL SERVICES
NORTH AMERICAN RESOURCE MANAGEMENT, INC.
NUS CORPORATION
O'BRIEN AND GERE ENGINEERS, INC.
ODNY INCORPORATED
RETTEW ASSOCIATES, INC.
SATTERTHWAITE, WALTER B., ASSOCIATES, INC.
SEAR-BROWN GROUP
SOUTHERN TIER CONSULTING
STETSON-HARZA
TAMS CONSULTANTS, INC.
TERRESTRIAL ENVIRONMENTAL SPECIALISTS, INC.
TRAMER, PH.D., ELLIOT J.
URS CONSULTANTS
WAPORA
WETLANDS AND ENVIRONMENTAL RESOURCES, INC.
WOODWARD-CLYDE CONSULTANTS
WOOLPERT CONSULTANTS
YORK SERVICES CORP.

CONSULTANTS AND CONTRACTORS

ACRES INTERNATIONAL CORPORATION
140 John James Audubon Parkway
Amherst, New York 14228-1180
(716)689-3737

ACRT, INCORPORATED
152 E. Main Street
P.O. Box 219
Kent, Ohio 44240-0219
(216)673-8272

AFI ENVIRONMENTAL
6103 Robinson Road
Lockport, New York 14094
(716)625-8434

ANDREW MARTIN ASSOCIATES, INC.
2700 West 21st Street
Erie, Pennsylvania 16506
(814)833-3081

AULD ENVIRONMENTAL ASSOCIATES
1535 Van Buren Street
Olcott, New York 14126
(716)778-8857

BEAK CONSULTANTS, INC.
12072 Main Road
Akron, New York 14001
(716)542-5544

BIOHABITATS INC.
P.O. Box 935
Brooklandville, Maryland 21022
(301)337-3659

BOWSER MORNER
122 S. St. Clair Street
P.O. Box 838
Toledo, Ohio 43696-0838
(419)255-8200

BUCHART HORN, INC.
55 South Richland Avenue
P.O. Box M-55
York, Pennsylvania 17405-7055
(717)843-5561

BUFFALO ENVIRONMENTAL CONSULTING ENGINEERS
P.O. Box 3309
Lockport, New York 14095
(716)625-6301

CARPENTER TURNER GROUP, INC.
257 Tuxedo Avenue
Cleveland, Ohio 44131
(216)661-6696

CH2M HILL
99 Cherry Hill Road
Suite 304
Parsippany, New Jersey 07054-1102
(201)316-9300

DAMES AND MOORE
644 Linn Street
Suite 501
Cincinnati, Ohio 45203
(513)651-3440

EARTH INVESTIGATIONS LTD.
R-6576 East Quaker Street
Orchard Park, New York 14127
(716)662-0795

EARTH SATTELITE CORP.
7222 - 47th Street
Chevy Chase, Maryland 20815
(301)951-4077

EBASCO SERVICES, INC.
One Oxford Valley-Suite 414
2300 Lincoln Highway East
Langhorne, Pennsylvania 19047-1829
(215)752-0212

EDMISTON, DR. JOE A.
Ecological Consultant
4615 Balmoral Drive
Pensacola, Florida 32504
(904)477-6686

ELDON ENVIRONMENTAL MANAGEMENT CORP.
40 Cutter Mill Road
Great Neck, New York 11021
(212)938-1887

ENGINEERING-SCIENCE, INC.
290 Elwood Davis Road
Liverpool, New York 13088
(315)451-9560

ENVIRODYNE ENGINEERS
168 North Clinton Street
Chicago, Illinois 60606
(312)648-1700

ENVIRONMENTAL CLEANUP ORGANIZATION
739 E. Streetsboro Road
Suite D
Hudson, Ohio 44236
(216)431-7456

ENVIRONMENTAL CONSULTANTS
1916 North 12th Street
P.O. Box 2104
Toledo, Ohio 43603
(419)241-7127

ENVIRONMENTAL DESIGN & RESEARCH, P.C.
309 South Franklin Street
Syracuse, New York 13202
(315)425-8894

ENVIRONMENTAL EXPLORATIONS
29632 East River Road
Perrysburg, Ohio 43551
(419)661-0203

ENVIRONMENTAL FIELD SERVICES
8397 Boston State Road
Boston, New York 14025
(716)941-5544

ENVIRONMENTAL MITIGATION GROUP
1530-B Commerce Drive
Stow (Akron), Ohio 44224-1711
(216)686-9866

ENVIRONMENTAL RESOURCE ASSOCIATES, INC.
Bohannon Science Center
20700 North Park Boulevard
University Heights, Ohio 44118
(216)321-0933

EVERGREEN ENTERPRISES
349 East Lincoln Street
Findlay, Ohio 45840
(419)422-7151

F.X. BROWNE, ASSOCIATES, INC.
P.O. Box 1398
Marshalls Creek, Pennsylvania 18335-1398
(717)588-7900

GEO SERVICES, INC.
5380 Naiman Parkway
Suite G
Cleveland, Ohio 44139
(216)349-4367

GEONEX MARTEL, INC.
7100 - 30th Avenue North
St. Petersburg, Florida 33710
(813)345-0100

GREENHORNE & O'MARA, INC.
9001 Edmonston Road
Greenbelt, Maryland 20770
(301)982-2800

HAMILTON ECOSYSTEM ANALYSIS
R.D. 1, Box 265
Sigel, Pennsylvania 15860
(814)752-2633

HAUSER, DR. EDWARD J.P.
Environmental Consultant
6450 Conley Road
Concord Township, Ohio 44077-9750
(216)953-7151

HAVENS AND EMERSON, INC.
Bond Court Building
1300 East 9th Street
Cleveland, Ohio 44114
(216)621-2407

HEADWATERS ENVIRONMENTAL SERVICES
RD 2, Box 688
Genesee, Pennsylvania 16923
(814)228-3337

HORIZON ENVIRONMENTAL SERVICES, INC.
P.O. Box 162017
Austin, Texas 78716
(512)328-2430

HUNTER ENVIRONMENTAL SERVICES, INC.
5219 Militia Hill Road
Plymouth Meeting, Pennsylvania 19462
(215)941-9700

ICHTHYOLOGICAL ASSOCIATES, INC.
50 Ludlowville Road
Lansing, New York 14882
(607)533-8801

IEP ENVIRONMENTAL CONSULTANTS
300 Cramer Creek Court
Dublin, Ohio 43017
(614)793-0077

INTER-FLUVE, INC.
211 N. Grand Street
Bozeman, Montana 59715
(406)586-6926

KAMBER ENGINEERING, INC.
818 West Diamond Avenue
Gaithersburg, Maryland 20878
(301)840-1030

LAKE ERIE BIOTEK WRITING AND RESEARCH CENTER
1673 West 8th Street
Erie, Pennsylvania 16505
(814)454-6316

LARSEN ENGINEERS
700 West Metro Park
Rochester, New York 14623-2678
(716)272-7310

LOUIS BERGER & ASSOCIATES, INC.
100 Halsted Street
P.O. Box 270
East Orange, New Jersey 07019-0270
(201)678-1960

LUDGATE ENGINEERING CORP.
9A North Fifth Street
P.O. Box 1339
Reading, Pennsylvania 19603
(215)374-2239

LYON, DR. JOHN G.
2609 Scioto View Lane
Columbus, Ohio 43212-3634
(614)486-1651

MC DONNELL PROUDFOOT AND ASSOCIATES, INC.
5360 Heatherdowns Boulevard
Toledo, Ohio 43614
(419)865-7195

MICROBAC LABORATORIES, INC.
1962 Wager Road
Erie, Pennsylvania 16509
(814)825-8533

NORMANDEAU ASSOCIATES, INC.
25 Nashua Road
Bedford, New Hampshire 03102-5999
(603)472-5191

NORTHEAST GEOLOGICAL SERVICES
P.O. Box 43
Central Square, New York 13036
(315)676-2539

NORTH AMERICAN RESOURCE MANAGEMENT, INCORPORATED
P.O. Box 6777
Charlottesville, VA 22906
(804)293-8733

NUS CORPORATION
910 Clopper Road
P.O. Box 6032
Gaithersburg, Maryland 20877-0962
(301)258-6000

O'BRIEN AND GERE ENGINEERS, INCORPORATED
P.O. Box 4873
Syracuse, New York 13221
(315)437-6100

ODNY, INC.
P.O. Box 54
Hamburg, New York 14075
(716)662-0795

RETTEW ASSOCIATES, INC.
5010 Ritter Road
Suite 102
Mechanicsburg, Pennsylvania 17055
(717)697-3551

SATTERTHWAITE, WALTER B., ASSOCIATES, INC.
720 N. Five Points Road
West Chester, Pennsylvania 19380
(215)692-5770

SEAR-BROWN GROUP
85 Metro Park
Rochester, New York 14623
(716)475-1440

SOUTHERN TIER CONSULTING
45 South Main Street
P.O. Box 610
Portville, New York 1a770
(716)933-7868

STETSON-HARZA
185 Genesee Street
Utica, New York 13501
(315)797-5800

TAMS CONSULTANTS, INC.
655 Third Avenue
New York, New York 10017
(212)867-1777

TERRESTRIAL ENVIRONMENTAL SPECIALISTS, INC.
R.D. 1, Box 388
Phoenix, New York 13135
(315)695-7228

TRAMER, PH.D., ELLIOT J.
University of Toledo
2801 W. Bancroft Street
Toledo, Ohio 43606
(419)537-2065

URS CONSULTANTS
3605 Warrensville Center Road
Cleveland, Ohio 44122-5203
(216)283-4000

WAPORA
1815 Century Boulevard
Suite 150
Atlanta, Georgia 30345
(404)636-0928

WETLANDS AND ENVIRONMENTAL RESOURCES, INC.
P.O. Box 19886
Louisville, Kentucky 40219
(502)239-6407

WOODWARD-CLYDE CONSULTANTS
201 Willowbrook Boulevard
P.O. Rox 290
Wayne, New Jersey 07470
(201)785-0700
(212)926-2878

WOOLPERT CONSULTANTS
409 East Monument Avenue
Dayton, Ohio 45402-1226
(513)461-5660

YORK SERVICES CORP.
111 W. Washington Street
Suite 200
Charles Town, West Virginia 25414
(304)725-3800

LIST OF SOILS CONSULTANTS

BLACKMORE, RONALD
BROAD, WILLIAM
CASE, ROGER
EARTH DIMENSIONS, INC.
FINCHAM SOIL SERVICES
HIGGINS, BRADFORD, CPSS
HUTTON, FRANK
KICK, LESLIE
MAINE, CHARLES
MCDOWELL, LETEMBER
RICE, E. ERWIN
ROBINSON, LUTHER
WARNER, JOHN
WORK, RALPH
WULFORST, JOHN

SOILS CONSULTANTS

BLACKMORE, RONALD
RD 1, Box 176
Madison, New York 13402
(315)893-7101

BROAD, WILLIAM
RD 1, Box 345
Catskill, New York 12413
(518)943-6927

CASE, ROGER
P.O. Box 489
Claverack, New York 12513
(518)851-7953

EARTH DIMENSIONS, INC.
31 South Grove Street
East Aurora, New York 14052
(716)655-1717

FINCHAM SOIL SERVICES, INC.
13915 Claridon Park Drive
Chardon, Ohio 44024

HUTTON, FRANK
8970 Jackson Street
P.O. Box 403
Weedsport, New York 13166
(315)834-6445

KICK, LESLIE
7053 South Street
Box 49
Westmoreland, New York 13490
(315)853-3436

MAINE, CHARLES
48 Rolling Ridge
Glen Falls, New York 12801
(518)793-9376

MCDOWELL, LETEMBER
Sacketts Harbor Road
Watertown, New York 13601
(315)788-0972

RICE, E. ERWIN
3910 W. Seneca Turnpike
Syracuse, New York 13215

ROBINSON, LUTHER
RD 1, Box 556
Norwood, New York 13668
(315)353-8823

WARNER, JOHN
84 Enchanted Way
Naples, Florida 33942
(813)774-4856

WORK, RALPH
5 Hillside Court
P.O. Box 412
West Sand Lake, New York 12196

WULFORST, JOHN
RD 1
Hornell, New York
(607)324-6427

Based upon the data gathered at each sample point in the field, the following information needs to be submitted (only Items b., c. and d. are needed if using the Hydric Soil Assessment Procedure, Section 4.10):

a. The quadrat size or transect length (for the point intercept sampling procedure) used to estimate the areal cover of all dominant species for each stratum of vegetation. The Total Dominance Measure (TDM) per canopy and the dominant species needs to be tabulated and calculated for each quadrant (see Appendix A for an example).

b. All dominant plant species identifed to species level using scientific names and their wetland indicator status listed as referenced in the National List of Plant Species that Occur in Wetlands, (Region I), 1988.

c. A soil profile describing the various horizons within 18 inches, the depth from the surface the soil sample was taken, the hue, value and chroma of the soil sample, or any observed inclusions of iron or manganese concretions and texture. When describing difficult or transitional soils where the "mottle becomes the matrix", give the approximate percentages of each along with the chromas.

d. The observed hydrology and/or hydrologic indicators within the plot or vicinity, e.g. same plant community.

6. Disturbed Sites

Disturbance or modification of any of the three parameters (vegetation, soils and hydrology) used to describe a wetland shall be fully described. Some of these modifications include but are not limited to; ditches or drainage tiles located onsite, recent farming or logging activities, fill placed within the wetland boundary, site grading by earth moving equipment, and any natural disturbances caused by flooding, sedimentation, erosion, beaver dams, etc. If the site is altered to such an extent that one or more wetland indicator parameters is missing, it may be necessary to apply the techniques described in the manual in Section 4.2 under Disturbed Areas.

7. Results and Conclusions

Note the acreage of the identified jurisdictional wetland based upon the onsite delineation. Indicate how the acreage was calculated e.g. point grid, planimeter, field measured and supply the calculations used, etc. Discuss any unusual problems or difficulties encountered in the field which may have affected the wetland boundary delineation. Problematic areas should be identified and explained and the reasoning or justification for any impact on the delineation result fully explained.

8. Attachments

a. Site location map (USGS Quadrangle)

b. National Wetlands Inventory Map

c. State or local wetland map

d. County soils map for site, if available

e. Baseline map showing the delineated wetland boundary with all sampling points located and labeled. The major plant communities occurring on the site may be presented on this same drawing if it does not clutter the map otherwise a separate map should be prepared.

f. All data sheets need to be referenced to the appropriate sample point(s) on the baseline map. All raw vegetation data must be submitted even if using the Prevalence Index method. The percent areal cover for all dominant species (dominant species are defined in the manual in Section 2.4.) must also be indicated.

g. A plan view showing the project site and all work proposed within the wetland boundary. Distinquish between those areas to be filled or those to be excavated only.

h. A site map with photographic points and their direction and the corresponding photographs.

i. Names of person(s) who prepared the report or assisted in data collection of plant or soils identifications. Addresses and telephone numbers must be included.

j. Sampling dates, especially if any of the parameters were observed at different times.

k. References used.

9. Questions

If you encounter a situation that is difficult or not adequately discussed in the manual, you may call the Buffalo District office to discuss the problem with one of the staff biologists. The telephone number for the Regulatory Branch is 716-879-4330.

Delineation report(s) and permit applications should be sent to:

U.S. Army Corps of Engineers
ATTN: Regulatory Branch
1776 Niagara Street
Buffalo, New York 14207-3199

References

Federal Interagency Committee for Wetland Delineation, 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A. Soil Conservation Service, D.C. Cooperative technical publication. 76 pp. plus appendices. *

Reed, Porter B. Jr., 1988. National List of Plant Species that Occur in Wetland: Region I, U.S. Fish and Wildlife Service, Washington, DC. Biol. Rpt 88 (26.1). 112 pp. **

U.S.D.A. Soil Conservation Service, 1987. Hydric Soils of the United States, 1987. In cooperation with the National Technical Committee for Hydric Soils. USDA-SCS, Washington, DC. ***

Note: The above references may be obtained from the following sources.

* Government Printing Office order by calling A/C 202-783-3238, the stock No. for this publication is 024-010-00-683-8, the cost is $7.50.

** National Ecology Research Center USF&WS, information on acquiring this publication can be obtained by calling A/C 303-226-9300.

*** Order from the National Committee for Hydric Soils, Soil Conservation Service, P.O. Box 2890, Washington, DC 20013.

Appendix A

Sample Quadrat Data

TREES	Indicator Status	Percent Areal Cover	TDM per Canopy	Dominant Species= .2 x TDM	Rating	Dominant Species? Yes/No
Acer rubrum	FAC	60			1	Yes
Fraxinus pennsylvania	FACW	40	100%	20%	1	Yes
SHRUBS						
Viburnum recognitum	FACW-	40			1	Yes
V. opulus	UPL	30	70%	14%	1	Yes
HERBS						
Podophyllum peltatum	FACU	20			1	Yes
Carex pennsylvanica	UPL	20			1	Yes
Dentaria laciniata	FACU	15			1	Yes
Potentilla simplex	FACU	5	60%	12%	0	No

Percent of Dominant Species that are OBL, FACW, and/or FAC
(3 ÷ 7 X 100 = 43%) = 43%

Editorial Note for this Example. The vegetation anaylsis presented in the above example does not meet the 50 percent or greater requirement to be considered hydrophytic vegetation unless hydric soils and strong hydrologic indicators are present. If so, it will be necessary to evaluate the sample site as a Problem Area Wetland as discussed in the manual in Section 4.24.

Use the appropriate data forms provided in the manual when submitting sampling results.

Appendix B

In March of 1990 we published the Guidance for Submittal of Wetland Delineation Reports (WDR). This guidance established the requirements for data and drawings accompanying WDR's so that the Corps staff could readily determine jurisdictional responsibility under Section 404 of the Clean Water Act. Two areas of concern that have greatly impacted upon the accuracy of wetland delineations have been identified and are the basis for this additional guidance.

1. Winter Wetland Delineations. The landscape regulated by the Buffalo District Corps of Engineers consists of a tree-dominated vegetation type in which most woody taxa are winter-deciduous. Climatic conditions within the district during the winter months can be described as being cold and snowy with extended periods where the ground is frozen and snow covered. These climatic conditions combined with lack of leaves to aid in identification of woody species and the absence of a herbaceous layer or presence of snow cover result in a highly inaccurate description of vegetation. In addition, frequent occurence of frozen ground makes it difficult, if not impossible to provide accurate site specific soils and hydrology data.

In view of the inaccuracies brought about by these climatic conditions, we are discouraging the performance of wetland delineations during the winter months. The winter sampling season is defined as beginning on November 15 and ending on March 15. Wetland boundaries that must be established during this time frame should rely upon the limits of the hydric soils as depicted in available soils maps and reports. We will generally consider winter wetland delineations to be a preliminary indication of jurisdiction. Although this information can be used for planning purposes, project sponsors must understand that additional field data will generally be required during the next growing season to accurately fix the location of the wetland boundary. In selected cases where work has begun without authorization and enforcement action is required, we may rely on winter wetland delineations as a basis for determining regulatory jurisdiction.

2. Plant Identifications. Due to the varied technical backgrounds of consultants performing plant identifications, we find it necessary to require voucher specimens. This action is necessary to verify the species composition of each plant community to insure that they are accurately characterized. Plant species that must be vouchered include any dominant upland (UPL) or faculative upland (FACU) taxa whose presence causes a hydrophytic plant community to shift to a community type that is not regulated by the Corps of Engineers. The collection of plant voucher specimens will be required for all delineations conducted after March 15, 1991. The consultant or permit applicant will be responsible for housing these specimens and maintaining them in good condition until a permit action is completed or the project file is closed. If necessary, we may require that the identification of plant specimens be verified by a plant authority at a local or regional herbaria. The following information should be recorded with each specimen collected: scientific name, state, county, site location, habitat, associated species, elevation, date and name of collector.

Brody Submission No. 4

_______ PLEASE CHECK THIS SPACE IF YOU WANT TO MAINTAIN CONFIDENTIALITY. WE STRONGLY URGE YOU TO ALLOW US TO USE YOUR NAME AND PROJECT PUBLICLY AS THE IMPACT WILL BE MUCH GREATER, BUT UNDERSTAND IF YOU DO NOT WISH TO DO SO.

1) NAME OF PROJECT STONY BROOK SUBDIVISION

2) LOCATION -- TOWN AND COUNTY, OR ADDRESS IF CONFIDENTIALITY IS NOT REQUIRED Town of LANCASTER

3) CONTACT PERSON AND PHONE NUMBER (WE MAY BE CALLING TO GET ADDITIONAL INFORMATION)

GEORGE PHELPS - 675-1200

4) DESCRIBE THE PROJECT: (MAPS, SURVEYS, PHOTOS WOULD BE HELPFUL. YOU MAY USE ADDITIONAL PAPER AS NEEDED.)

TOTAL PARCEL ±101 ACRES SINGLE FAMILY RESIDENTIAL SUBDIVISION
PHASE I - 8 ACRES - 22 LOTS DEVELOPED LATE 1990
FUTURE PHASES - 93 ACRES - PROPOSED 210 LOTS PRIOR TO WETLANDS DELINEATION

5) BRIEF NARRATION OF WHAT HAPPENED -- HOW WAS YOUR PROJECT AFFECTED BY THE CORPS OF ENGINEERS? (PLEASE PROVIDE DETAILS AND FEEL FREE TO USE ADDITIONAL PAPER AS NEEDED) PLEASE INCLUDE DETAILS LIKE: WHEN DID YOU FIRST FIND OUT A PERMIT FROM THE CORPS WAS REQUIRED? HAS YOUR PROJECT BEEN STOPPED BY THE CORPS? HOW? WHAT WAS/IS THE TIME FRAME FOR CORPS ACTION? WHAT EFFECT HAS THE CORPS' ACTION HAD ON YOUR BOTTOM LINE -- NUMBER OF JOBS LOST, ADDITIONAL COSTS, PLEASE DETAIL. HAVE YOU BEEN REQUIRED TO MAKE CHANGES TO YOUR PROJECTS? IF SO, DESCRIBE? See ATTACHED

6) WHAT EFFECT HAS IT HAD ON YOUR PLANNING FOR FUTURE PROJECTS? PLEASE TELL US HOW YOUR PLANNING PROCEDURES WERE CHANGES -- PROJECT TIME TABLES, PRICING, ETC. See ATTACHED

PLEASE INCLUDE ANY ADDITIONAL INFORMATION THAT YOU FEEL MIGHT BE USEFUL.

①

STONY BROOK SUBDIVISION

- PHASE I ± 13 ACRES, - 22 LOTS.

WAS READY TO COMMENCE DEVELOPMENT OF PHASE I OF SUBDIVISION IN MAY 1990. ERIE COUNTY D.E.P. WOULD NOT APPROVE THE SANITARY SEWER PERMIT UNTIL PROJECT RECEIVED WETLAND CLEARANCE FROM ARMY CORPS OF ENGINEERS.

HAD OUR CONSULTANT PERFORM ON-SITE WETLAND SURVEY FOR HYDRIC SOILS, VEGETATION & HYDROLOGY. PHASE I DID NOT CONTAIN ANY OF THE 3 CRITERIA FOR WETLANDS. THE FINDINGS WERE FORWARDED TO THE ARMY CORPS OF ENGINEERS ON SEPTEMBER 5, 1990. NO COMPLETE DELINEATION WAS REQUIRED AND RECEIVED A LETTER DATED SEPTEMBER 17, 1990 FROM THE CORPS OF ENGINEERS INDICATING PHASE I DID NOT CONTAIN ANY FEDERAL WETLANDS.

THE PROCESS OF HIRING A CONSULTANT, CONDUCTING THE FIELD SURVEYS, PREPARING AND SUBMITTING THE REPORTS TO THE CORPS ETC. DELAYED OUR PROJECT 4 MONTHS. SITE DEVELOPMENT EVENTUALLY STARTED IN LATE SEPTEMBER AND WE WERE EXTREMELY FORTUNATE THAT FAVORABLE WEATHER CONDITIONS ALLOWED THE 22 LOTS IN PHASE I TO BE COMPLETED IN DECEMBER 1990, RATHER THAN SPRING OR SUMMER OF 1991.

- FUTURE PHASES ± 93 ACRES - PROPOSED 210 LOTS

COMPLETED WETLAND DELINEATION REPORT FOR 93 ACRES AND SUBMITTED TO CORPS OF ENGINEERS DECEMBER 19th AT PRE APPLICATION MEETING. WE WERE TOLD THAT DUE TO EXISTING WORK LOADS OUR REPORT WOULD NOT EVEN

BE LOOKED AT FOR 2 TO 3 MONTHS.

THE DELINEATION REPORT INDICATES 11.2 ACRES OF WETLAND INCLUSIONS WITHIN THE TOTAL 93 ACRES. OUR PROPOSED 2ND PHASE OF THE SUBDIVISION (± 25 ACRES) DOES NOT CONTAIN ANY WETLANDS. HOWEVER IN ORDER TO SEWER THIS PHASE THE SANITARY SEWER TRUNK LINE MUST BE EXTENDED THROUGH THE FUTURE PHASES AND WILL CROSS THE WETLANDS AT SEVERAL LOCATIONS.
THE OVERALL IMPACT OF THE SEWER WETLAND CROSSINGS WILL BE LESS THAN ONE (1) ACRE.

BECAUSE OF THE SEWER EXTENSION WETLAND CROSSINGS WE CANNOT BEGIN THE ENGINEERING DESIGN OF THE 2ND PHASE UNTIL THE CORPS RENDERS ITS DECISION AND COMPLETES ITS REVIEW OF THE DELINEATION REPORT FOR THE ENTIRE PROPERTY. ALTHOUGH THERE ARE NO WETLANDS IN THE 2ND PHASE, THE EXPECTED DELAYS IN THE CORPS REVIEW OF OUR REPORT WILL PROBABLY PREVENT US FROM COMPLETING THE PHASE 2 ENGINEERING, OBTAINING THE NECESSARY APPROVALS PERMITS ETC. TO COMMENCE AND COMPLETE SITE DEVELOPMENT OF PHASE 2 IN 1991

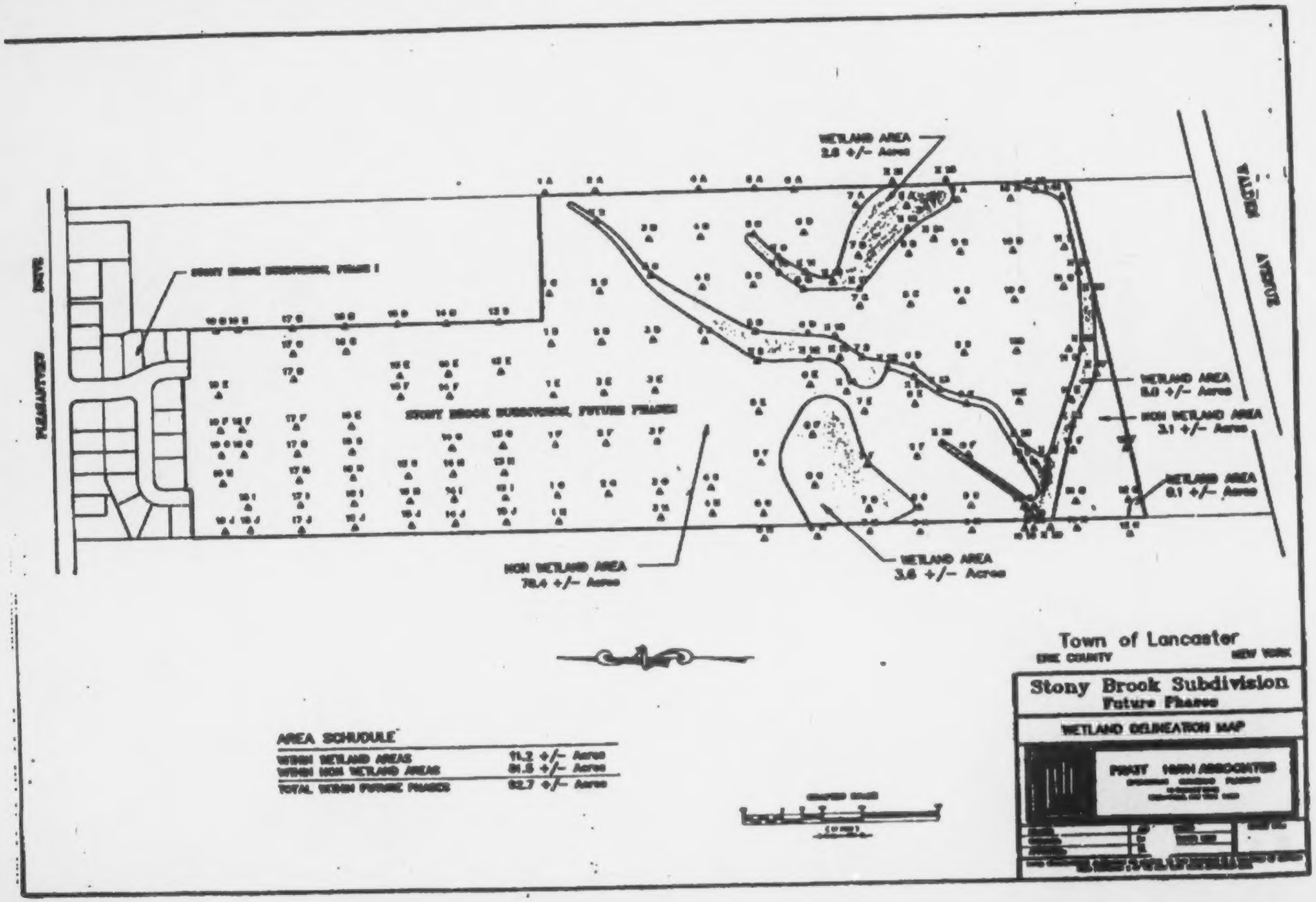
OVERALL CONSEQUENCE & EFFECT

THE OVERALL LOSS OF LOTS HAS YET TO BE DETERMINED UNTIL THE CORPS REVIEWS THE REPORT. HOWEVER AT THE PRELIMINARY MEETING HELD AT THE TIME THE REPORT WAS SUBMITTED, THE CORPS INDICATED THAT MITIGATION

③

AND THAT TOTAL AVOIDANCE OF WETLAND AREAS WOULD PROBABLY BE REQUIRED. BECAUSE OF THE SCATTERED LOCATIONS OF THE WETLAND INCLUSIONS, TOTAL AVOIDANCE WITHOUT SOME FORM OF MITIGATION RELIEF WILL BE DEVASTATING TO THE SITE PLAN AND COULD RESULT IN THE LOSS OF 40→50 LOTS FROM THE ORIGINAL 210 LOT CONCEPT PLAN.

ALSO WE EXPECT MOST OF THE LOTS IN PHASE I TO BE SOLD BY EARLY 1991. IF A LENGTHY WETLAND REVIEW PROCESS PREVENTS THE SITE DEVELOPMENT OF PHASE 2, WE WILL BE OUT OF BUILDABLE LOTS AND THUS OUT OF BUSINESS IN THIS SUBDIVISION AT LEAST UNTIL MID 1992. WE WILL LOOSE OUR SALES MOMENTUM AND BE FORCED TO SELL OUR MODEL HOMES. TO CONTINUE TO CONDUCT BUSINESS IN LANCASTER WE PROBABLY WILL HAVE TO PURCHASE DEVELOPED BUILDING LOTS FROM OTHER DEVELOPER'S IN TOWN.


PLEASANTVIEW DRIVE
STONY BROOK SUBDIVISION, PHASE I
STONY BROOK SUBDIVISION, FUTURE PHASES
WETLAND AREA
2.8 +/- Acres
WETLAND AREA
8.0 +/- Acres
NON WETLAND AREA
3.1 +/- Acres
WETLAND AREA
0.1 +/- Acres
WALDEN AVENUE
NON WETLAND AREA
78.4 +/- Acres
WETLAND AREA
3.6 +/- Acres
AREA SCHUDULE
WITHIN WETLAND AREAS 11.2 +/- Acres
WITHIN NON WETLAND AREAS 81.5 +/- Acres
TOTAL WITHIN FUTURE PHASES 92.7 +/- Acres
GRAPHIC SCALE
Town of Lancaster
ERIE COUNTY
NEW YORK
Stony Brook Subdivision
Future Phases
WETLAND DELINEATION MAP
ASSOCIATES

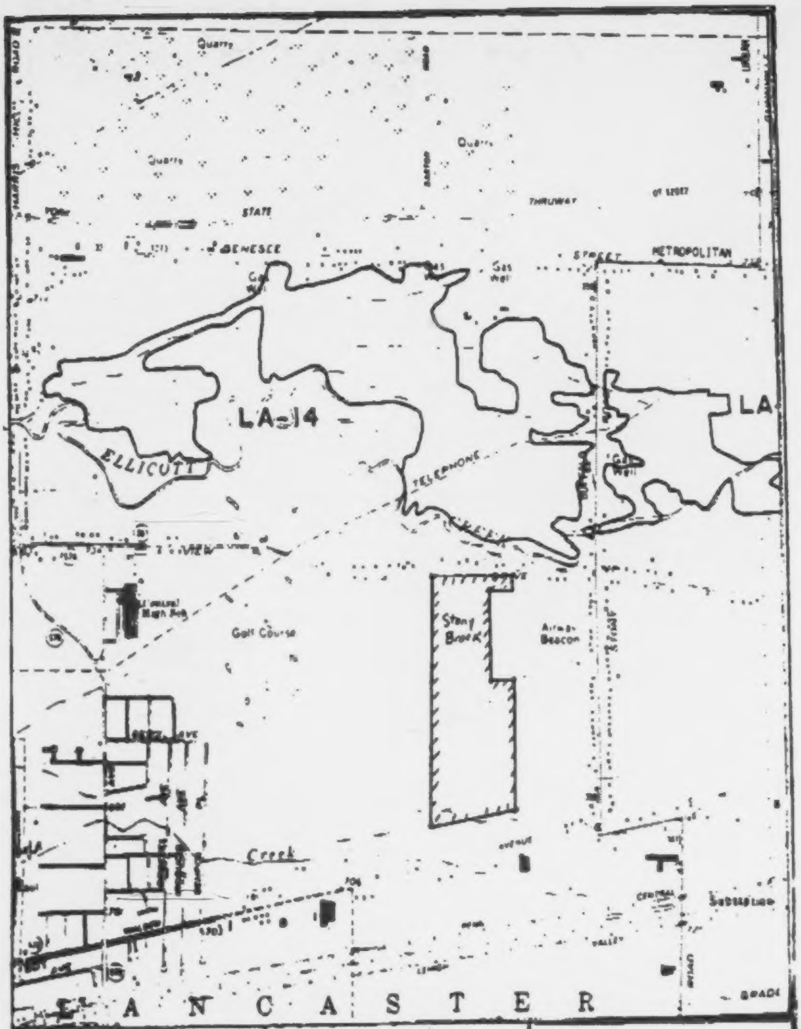

Quarry
Quarry
Quarry
STATE
THRUWAY
GENESEE
STREET
METROPOLITAN
Gas Well
Gas Well
LA-14
LA
ELLICOTT
TELEPHONE
Golf Course
Stony Brook
Airway Beacon
Creek
Substation
L A N C A S T E R

Figure 4 NYSDEC Freshwater Wetlands	Stony Brook Subdivision Lancaster, NY	EARTH DIMENSIONS INC.

Brody Submission No. 5

D.G. Marfurt Development Inc.
140 Irwin Place
Tonawanda, NY 14150

January 14, 1991

1) Project Name: Wheatfield Heights Subdivision
2) Location: Wheatfield Niagara County Nash Rd. and Niagara Falls Blvd.
3) Donald G. Marfurt owner, and developer (716) 691-3410
4) Project 162 lots residential, single family home subdivision
5) All town, county, and state permits were received project was stopped by the army corp of engineers until an expensive delineation study was done on the project. We were planning to install the utilities during the winter months and be ready to pave and start building in e spring of 1991. The project looks like we will not get an answer from the army corps until June of 1991 and will loose approx. 34 building lotsas shown on the subdivision map areas a,b,&c at a retail cost of $850,000.00. Now all remaining lot prices will be raised to compensate lost areas, which in turn will raise the cost of housing making it impossible for many people to afford housing.

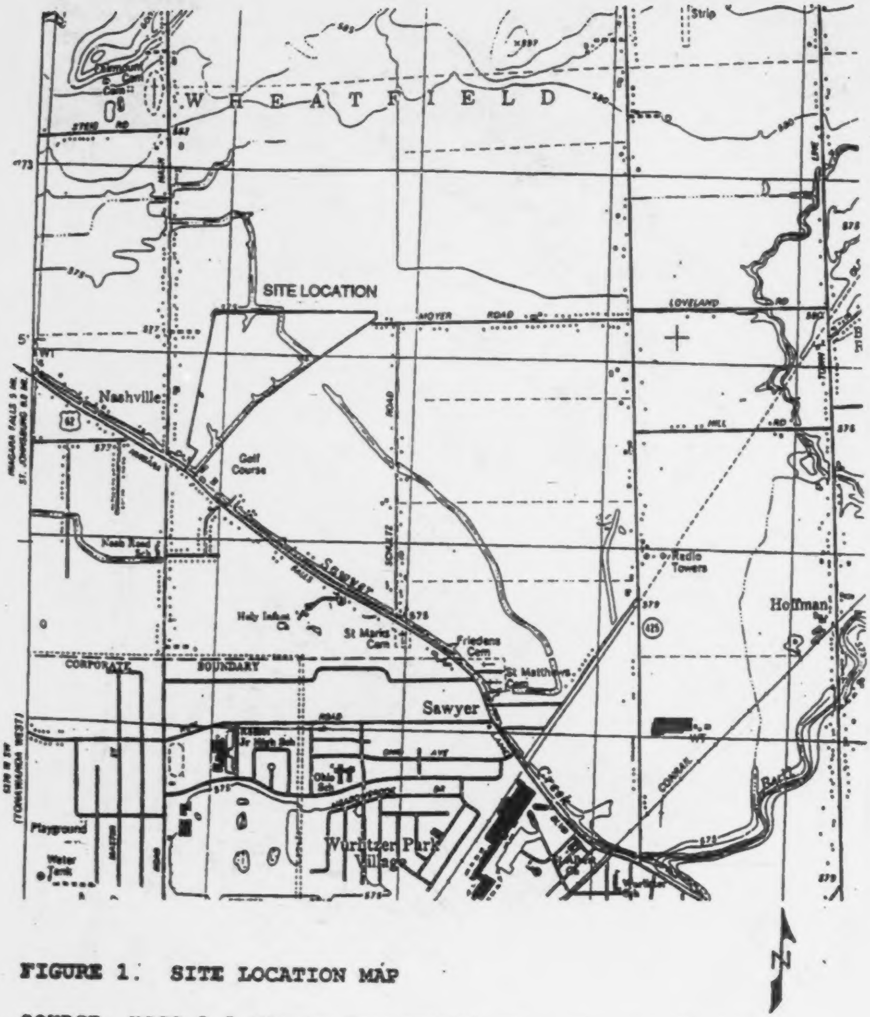
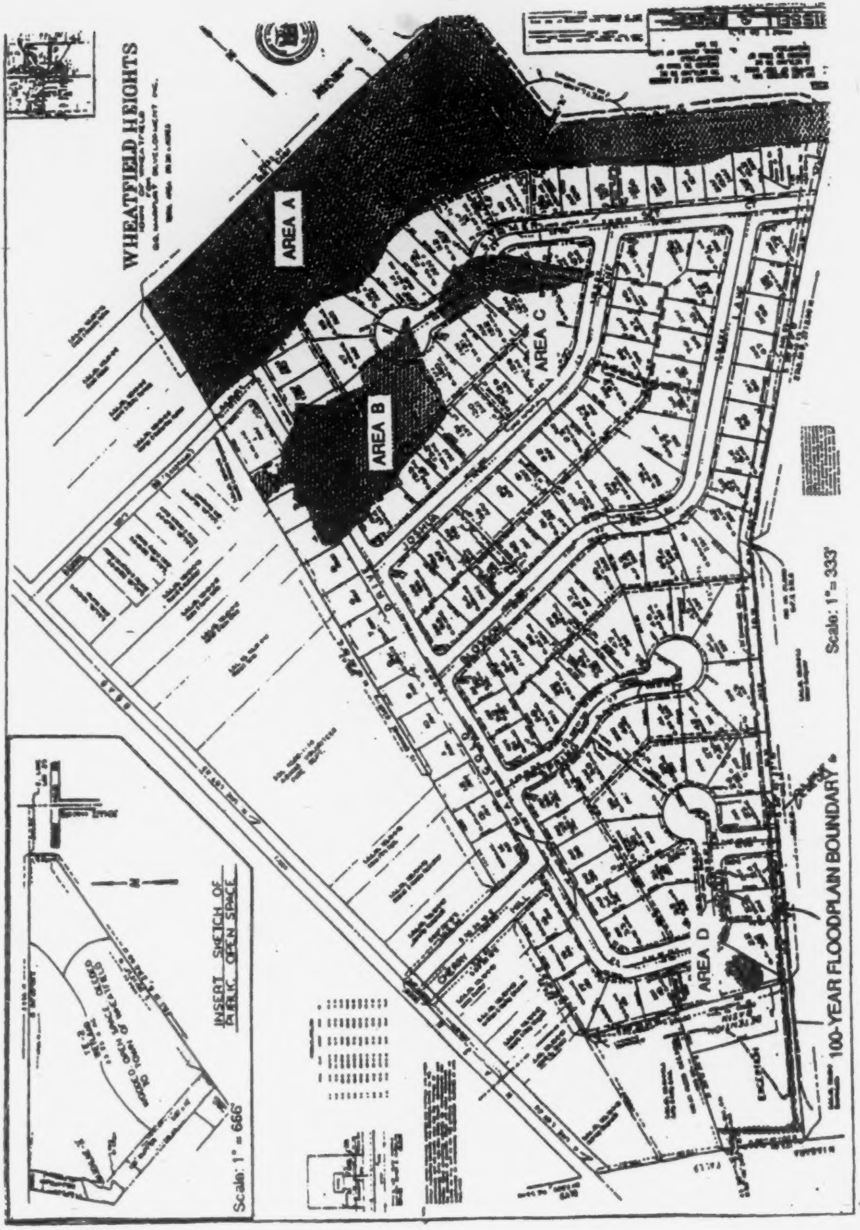

W H E A T F I E L D
SITE LOCATION
MOYER ROAD
LOVELAND RD
HILL RD
Nashville
Golf Course
Nash Road Sch
Sawyer
Holy Infant Ch
St Marks Cem
Friedens Cem
St Matthews Cem
Radio Towers
Hoffman
CORPORATE BOUNDARY
Jr High Sch
Playground
Water Tank
Wurlitzer Park Village
Creek
CONRAIL
N

FIGURE 1. SITE LOCATION MAP

SOURCE: USGS 7.5 Minute Topographic Map, Tonawanda East Quandrangle.

Scale: 1" = 2000'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AREA B
AREA C
AREA D
100-YEAR FLOODPLAIN BOUNDARY
Scale: 1" = 333'
INSERT SKETCH OF PUBLIC OPEN SPACE
Scale: 1" = 666'

______ PLEASE CHECK THIS SPACE IF YOU WANT TO MAINTAIN CONFIDENTIALITY. WE STRONGLY URGE YOU TO ALLOW US TO USE YOUR NAME AND PROJECT PUBLICLY AS THE IMPACT WILL BE MUCH GREATER, BUT UNDERSTAND IF YOU DO NOT WISH TO DO SO.

Brody Submission No. 6

1) NAME OF PROJECT

656-unit Complex in Amherst

2) LOCATION -- TOWN AND COUNTY, OR ADDRESS IF CONFIDENTIALITY IS NOT REQUIRED

Town of Amherst, County of Erie, North French & Sweethome Rds.

3) CONTACT PERSON AND PHONE NUMBER (WE MAY BE CALLING TO GET ADDITIONAL INFORMATION)

Harry Schmidt
David Blitzer
FORBES HOMES, INC. - 688-5597

4) DESCRIBE THE PROJECT: (MAPS, SURVEYS, PHOTOS WOULD BE HELPFUL. YOU MAY USE ADDITIONAL PAPER AS NEEDED.)

448 Apartments and 208 Town Houses on 63 acres off the northwest corner of N. French and Sweet Home Rds., extending west to Sundridge Drive.

5) BRIEF NARRATION OF WHAT HAPPENED -- HOW WAS YOUR PROJECT AFFECTED BY THE CORPS OF ENGINEERS? (PLEASE PROVIDE DETAILS AND FEEL FREE TO USE ADDITIONAL PAPER AS NEEDED) PLEASE INCLUDE DETAILS LIKE: WHEN DID YOU FIRST FIND OUT A PERMIT FROM THE CORPS WAS REQUIRED? HAS YOUR PROJECT BEEN STOPPED BY THE CORPS? HOW? WHAT WAS/IS THE TIME FRAME FOR CORPS ACTION? WHAT EFFECT HAS THE CORPS' ACTION HAD ON YOUR BOTTOM LINE -- NUMBER OF JOBS LOST, ADDITIONAL COSTS, PLEASE DETAIL. HAVE YOU BEEN REQUIRED TO MAKE CHANGES TO YOUR PROJECTS? IF SO, DESCRIBE?

Land was zoned for multifamily dwelling for the last 25 years.
Taxes on land was $21,442.00 per year
Corps of Engineers stopped project because of Wetlands designation
The taxes willincreaseto over $[redacted]

6) WHAT EFFECT HAS IT HAD ON YOUR PLANNING FOR FUTURE PROJECTS? PLEASE TELL US HOW YOUR PLANNING PROCEDURES WERE CHANGED -- PROJECT TIME TABLES, PRICING, ETC.

No. 5) con't -
School is in favor of project
Estimated 2 years to complete with employment of approxm 200 people

PLEASE INCLUDE ANY ADDITIONAL INFORMATION THAT YOU FEEL MIGHT BE USEFUL.

THIS LAND WILL SOON BE A DUMP PLACE DUE TO ALL THE NEIGHBORS IN THE INDUSTRIAL PARK DUMPINH ON IT.

656-unit complex planned in Amherst

By DICK DAWSON
News Amherst Bureau

The Amherst Planning Board will meet in special session at 7:30 p.m. July 26 in Town Hall to review an environmental impact study for what would be one of the largest apartment and town-house complexes in the Buffalo area.

The Overbrook Co. of Houston is planning to build 448 apartments and 208 town houses on 63 acres off the northwest corner of North French and Sweet Home roads, extending west to Sundridge Drive.

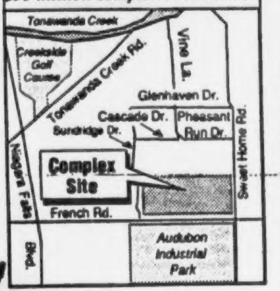
[redacted]

On the minus side of the ledger, studies estimate that the project will add 4,900 vehicles a day to traffic on North French, Sweet Home and Sundridge.

The Planning Board normally doesn't meet in July. But because of the size of the project and the potential for controversy, board members believed the hearing would take up too much time from other business on a regular monthly meeting's 20-project agenda, a Planning Department spokeswoman said Thursday.

APARTMENT PROJECT

$33 million complex in Amherst



In 1988, the Amherst Industrial Development Agency saw the 63-acre site as a natural extension of Amherst's upscale Audubon Industrial Park.

But the Amherst Town Board refused to consider the agency's bid to rezone the land from multiple-family dwelling to industrial usage, and the owner sold the site to apartment-development interests.

The apartments, according to the environmental study, would rent for $500 to $700 a month, depending on the number of bedrooms and the rental market.

Three-phase construction plans call for 208 one-bedroom, 184 two-bedroom and 56 three-bedroom apartments. Ninety-six one-bedroom, 80 two-bedroom and 32 three-bedroom town-house units also would be built.

The schedule calls for beginning the 232-apartment first phase this fall.

Forty percent of the apartments would have fireplaces. All would have outside decks or balconies, laundry facilities and central air conditioning.

The draft environmental study, prepared for Overbrook by Ken Kloeber Consulting Engineers of the Town of Boston, covers several potentially controversial issues, including traffic, construction noise, loss of open space, drainage, aesthetics and the adequacy of utilities.

Benefits associated with building the complex, the study says, include construction jobs it will create for several years; increased town, county and school tax revenues, and improved drainage as a result of the construction of storm water-retention facilities.

It also would meet a "demand for high-quality, multifamily housing," the study claims.

In 1988, the Amherst IDA wanted to buy the 63-acre site to replenish the town's dwindling inventory of industrial land.

The site lies across North French from the Audubon Industrial Park.

Since the site is zoned for its intended use, it needs only the approval of the Planning Board.

The Town Board told the IDA that it wouldn't consider rezoning the land for light industry until a promise to North Amherst residents was fulfilled.

The promise was to suspend major decision making affecting North Amherst's future until residents could take part in updating the area's master development plan.

Th land owner, David Blitzer, balk at waiting for up to a year for t town to consider a rezoning, which the sale of his land to th IDA would hinge, and it to rivate developm ests.

Editorial Page Amherst Bee August 1, 1990

This is our opinion . . .

In hindsight, foresight was needed

It was too late when the call went out the first time to scrap the apartment and town house project on 63 acres at Sweet Home and North French. It's hopelessly tardy this time around.

Why is it that every action regarding this piece of land is made as a last resort? The disaster alarm only seems to be sounded when there's no hope of fixing the situation.

Not a peep has been heard on the issue in the past year and a half. But now that the project has moved before the town planning board for approval, suddenly it's panic time again.

More than a year ago, the North Amherst Master Plan Committee was taken to task by The Bee for scrambling to the town board with the notion it should re-examine proposed use of the site. The committee, folding to pressure from North Amherst residents, panicked over the prospect of an apartment complex on the 63 acres and suggested it might be best after all for the Amherst Industrial Development Agency (AIDA) to buy the land for commercial use.

But where was public support and town board support when the AIDA was thinking about negotiating for the parcel? It was sadly lacking. With no hope of gaining timely town board rezoning approval, the AIDA had little choice but to drop its plans.

Now that full ramifications of a 656-unit multi-family complex are becoming known, some are wondering if perhaps expansion of the industrial park would be so bad after all.

A meeting is being planned within the next week to bring together the town board, AIDA, residents and the landowner/developer to see whether an alternate use for the site can be worked out. One would bet if the AIDA is still interested in buying the land, it will find it carries a larger price tag.

It does no harm to bring together those concerned with the apartment complex for a meeting of the minds. But how we wish it had been done two years ago, before obstacles mounted to the point where it may be impossible to change the project in midstream.

Forethought would have gone a long way in bringing this issue to a resolution agreeable to all. Hindsight may have little effect.

Brody Submission No. 7

______ PLEASE CHECK THIS SPACE IF YOU WANT TO MAINTAIN CONFIDENTIALITY. WE STRONGLY URGE YOU TO ALLOW US TO USE YOUR NAME AND PROJECT PUBLICLY AS THE IMPACT WILL BE MUCH GREATER, BUT UNDERSTAND IF YOU DO NOT WISH TO DO SO.

1) NAME OF PROJECT EAGLE HTS.

2) LOCATION -- TOWN AND COUNTY, OR ADDRESS IF CONFIDENTIALITY IS NOT REQUIRED O.P. OHIO

3) CONTACT PERSON AND PHONE NUMBER (WE MAY BE CALLING TO GET ADDITIONAL INFORMATION)

Dana Walman 626-1550

4) DESCRIBE THE PROJECT: (MAPS, SURVEYS, PHOTOS WOULD BE HELPFUL. YOU MAY USE ADDITIONAL PAPER AS NEEDED.)

SEE ATTACHED.

5) BRIEF NARRATION OF WHAT HAPPENED -- HOW WAS YOUR PROJECT AFFECTED BY THE CORPS OF ENGINEERS? (PLEASE PROVIDE DETAILS AND FEEL FREE TO USE ADDITIONAL PAPER AS NEEDED) PLEASE INCLUDE DETAILS LIKE: WHEN DID YOU FIRST FIND OUT A PERMIT FROM THE CORPS WAS REQUIRED? HAS YOUR PROJECT BEEN STOPPED BY THE CORPS? HOW? WHAT WAS/IS THE TIME FRAME FOR CORPS ACTION? WHAT EFFECT HAS THE CORPS' ACTION HAD ON YOUR BOTTOM LINE -- NUMBER OF JOBS LOST, ADDITIONAL COSTS, PLEASE DETAIL. HAVE YOU BEEN REQUIRED TO MAKE CHANGES TO YOUR PROJECTS? IF SO, DESCRIBE?

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6) WHAT EFFECT HAS IT HAD ON YOUR PLANNING FOR FUTURE PROJECTS? PLEASE TELL US HOW YOUR PLANNING PROCEDURES WERE CHANGED -- PROJECT TIME TABLES, PRICING, ETC.

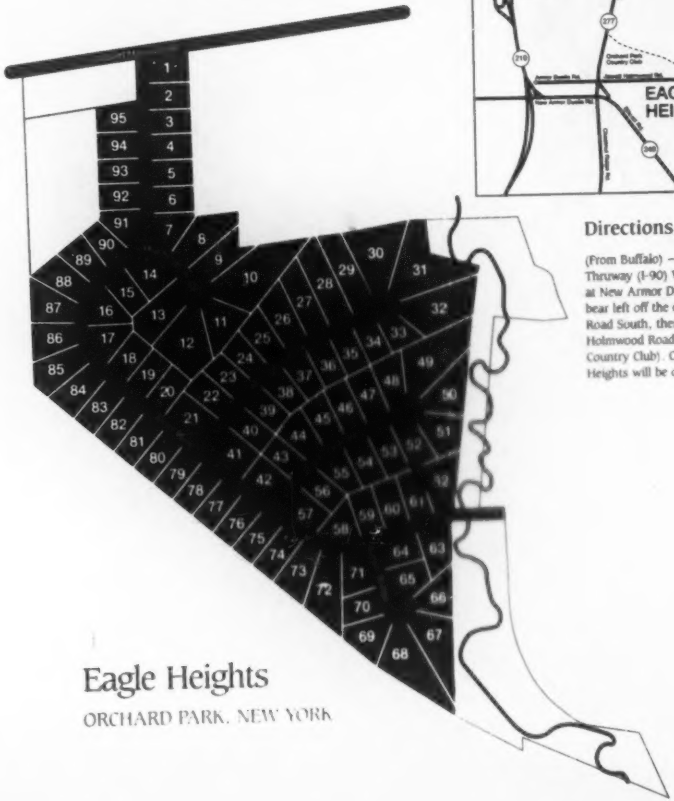
LOST ENTIRE BLDG. SEASON $11,000 PER MONTH INTEREST PAYMENT CONTINUES HOWEVER!

PLEASE INCLUDE ANY ADDITIONAL INFORMATION THAT YOU FEEL MIGHT BE USEFUL.

A Natural Setting

As a carefully maintained land development program, Eagle Heights offers you the best of two worlds: peaceful, refreshing seclusion in a pure, natural environment, plus the convenience of a five minute ride to the Village of Orchard Park and a twenty minute ride to Buffalo. Every home in Eagle Heights is constructed only of natural materials such as wood, brick, real stucco, stone or shingle. Whether you select a lot on which to build, or a home already under construction, you are assured of the beautiful natural environment which makes Eagle Heights so distinctive.

- Eleven miles southeast of Buffalo
- Fifteen minutes to many fine ski resorts
- Home of Chestnut Ridge Park, the largest in the County-owned system
- Fifteen miles from Buffalo International Airport
- Easy access to a network of expressways heading in all directions
- An abundance of shopping, services, and recreation nearby
- An excellent public school system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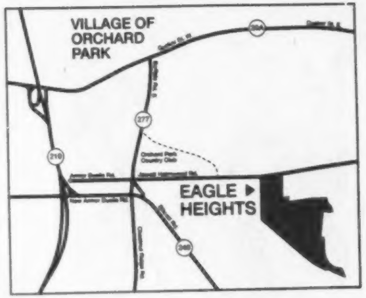
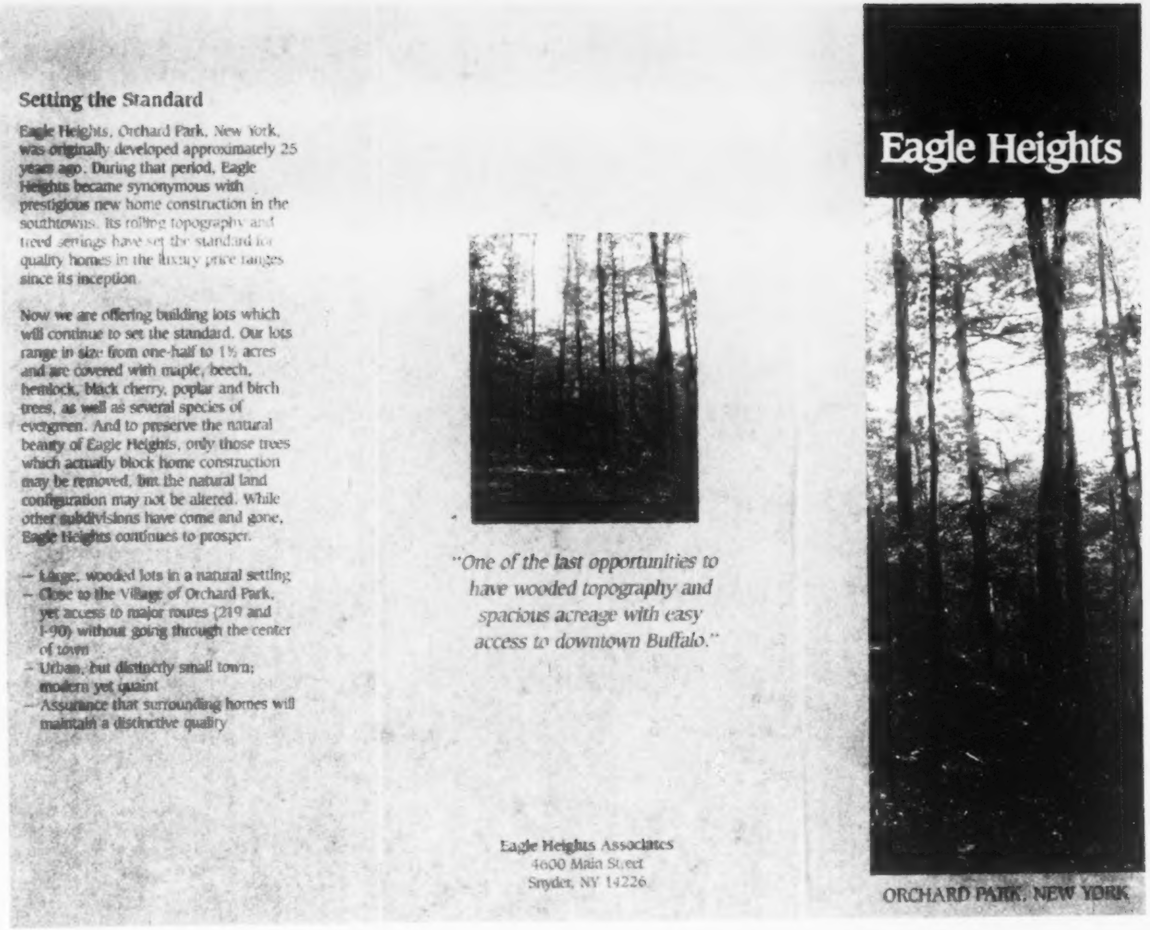
Eagle Heights

ORCHARD PARK, NEW YORK


VILLAGE OF ORCHARD PARK
277
219
240
Orchard Park Country Club
EAGLE ▶ HEIGHTS

Directions to Eagle Heights

(From Buffalo) – Take the New York State Thruway (I-90) West to Route 219. Get off at New Armor Duells Road (Route 240) and bear left off the exit. Turn left onto Buffalo Road South, then right onto Jewett Holmwood Road (at the Orchard Park Country Club). Continue 1½ miles; Eagle Heights will be on your right.



Setting the Standard

Eagle Heights, Orchard Park, New York, was originally developed approximately 25 years ago. During that period, Eagle Heights became synonymous with prestigious new home construction in the southtowns. Its rolling topography and treed settings have set the standard for quality homes in the luxury price ranges since its inception.

Now we are offering building lots which will continue to set the standard. Our lots range in size from one-half to 1½ acres and are covered with maple, beech, hemlock, black cherry, poplar and birch trees, as well as several species of evergreen. And to preserve the natural beauty of Eagle Heights, only those trees which actually block home construction may be removed, but the natural land configuration may not be altered. While other subdivisions have come and gone, Eagle Heights continues to prosper.

– Large, wooded lots in a natural setting
– Close to the Village of Orchard Park, yet access to major routes (219 and I-90) without going through the center of town
– Urban, but distinctly small town; modern yet quaint
– Assurance that surrounding homes will maintain a distinctive quality

"One of the last opportunities to have wooded topography and spacious acreage with easy access to downtown Buffalo."

Eagle Heights Associates
4600 Main Street
Snyder, NY 14226

Eagle Heights

ORCHARD PARK, NEW YORK

Brody Submission No. 8

______ PLEASE CHECK THIS SPACE IF YOU WANT TO MAINTAIN CONFIDENTIALITY. WE STRONGLY URGE YOU TO ALLOW US TO USE YOUR NAME AND PROJECT PUBLICLY AS THE IMPACT WILL BE MUCH GREATER, BUT UNDERSTAND IF YOU DO NOT WISH TO DO SO.

1) NAME OF PROJECT

LIBERTY SQUARE

2) LOCATION -- TOWN AND COUNTY, OR ADDRESS IF CONFIDENTIALITY IS NOT REQUIRED

LANCASTER CO.

3) CONTACT PERSON AND PHONE NUMBER (WE MAY BE CALLING TO GET ADDITIONAL INFORMATION)

DANA WARMAN 626-1550

4) DESCRIBE THE PROJECT: (MAPS, SURVEYS, PHOTOS WOULD BE HELPFUL. YOU MAY USE ADDITIONAL PAPER AS NEEDED.)

SEE ATTACHED

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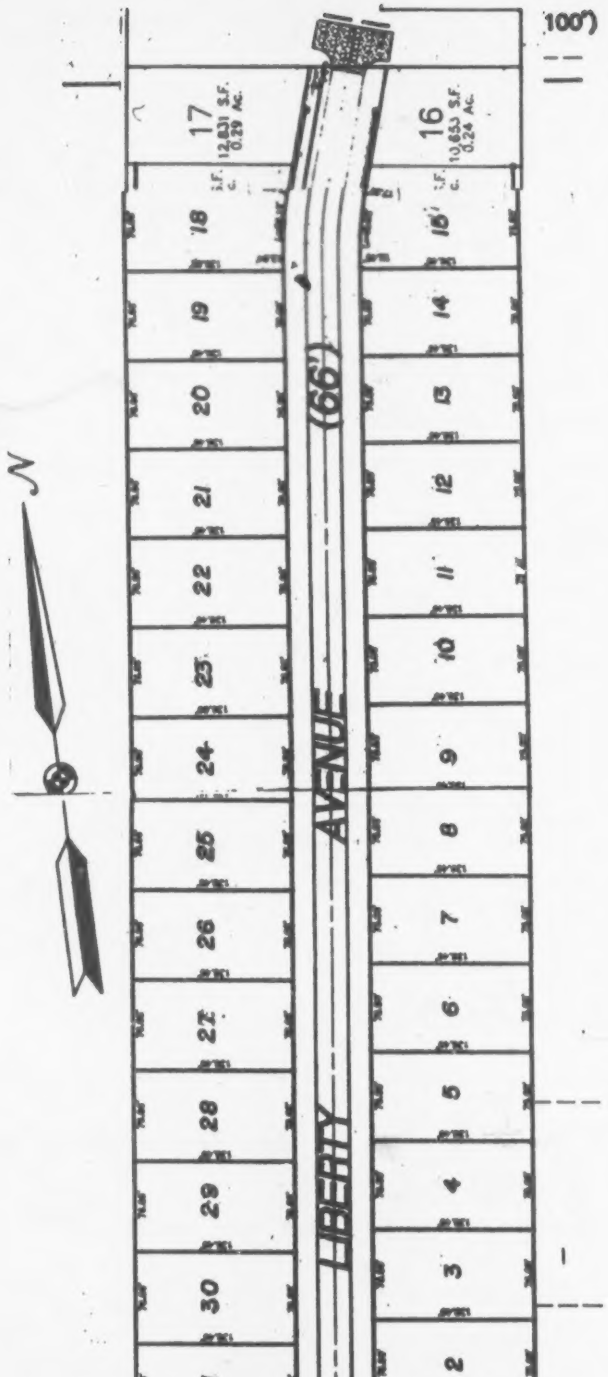
LOST ENTIRE BUILDING SEASON ALSO BUYERS WANTING TO BACK OUT OF CONTRACTS.

PLEASE INCLUDE ANY ADDITIONAL INFORMATION THAT YOU FEEL MIGHT BE USEFUL.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LIBERTY AVENUE
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SITE PLAN
SCALE : 1" = 100'

Brody Submission No. 9

National Association of Home Builders
15th and M Streets, N.W., Washington, D.C. 20005
Telex 89-2600 (202) 822-0200

22 January 1991

Joe Sabota
Small Business Committee
2361 Rayburn House Office Building
Washington, DC 20515

Re: History of Wetlands Law

Dear Mr. Sabota:

David Brody testified at the field hearing in Lockport, NY, held Tuesday 22 January 1991, on the effects of federal wetlands regulations on small businesses. In preparation for his testimony, I sent him a great deal of information. He has asked me to send copies of this material along to you, as part of the submission to the record.

By way of background you should know that the National Association of Home Builders (NAHB) is made up 157,000 member firms, which include not only people and firms that construct single-family homes, but also apartment, condominium, commercial, and industrial builders, as well as land planners and remodelers. Most of these members are small operations. As of 1986, 72% of NAHB's members built 25 homes or fewer each year.

As for the information in this packet, you will note that this includes copies of:

- Seltzer and Steinberg, "Wetlands and Private Development," 12 *Col. J. Env. L.* 159 (1987);
- Steinberg and Dowd, "Economic Considerations in the Section 404 Wetland Permit Process," 7 *Va. J. Nat'l Res. L.* 277 (1988);
- Want, *Law of Wetlands Regulation*, (Clark Boardman Co., Ltd. 1990), pp. 2-6 to 2-12, and pp. 5-8 to 5-10;
- Liebesman, "Clean Water Act's Section 404 Dredged and Fill Material Discharge Permit Program - Overview," legal outline; and

---

EDITOR'S NOTE: The four items noted above have not been reprinted here but are in the Committee's files.

- Albrecht, "Federal Wetlands Program Under the Clean Water Act," legal outline.

I have also included the following Memoranda of Agreement (MOA) and Regulatory Guidance Letters (RGL). After several discussions with Mr. Brody, I chose these to send him because I thought they pertained to his questions. You will note that most of these documents are not on Army Corps of Engineers (Corps) or Environmental Protection Agency (EPA) letterhead. For convenience, they were copied out of a publication entitled, Developer's Guide to Federal Wetlands Regulations, published by NAHB's Environmental Regulation Department.

- MOA Concerning the Determination of the Geographic Jurisdiction of the Section 404 Program and the Application of the Exemptions under the Section 404(f) of the CWA;
- MOA Concerning the Determination of Mitigation under the CWA Section 404(b)(1) Guidelines;
- RGL No. 85-4: Avoyelles;
- RGL No. 86-9: Clarification of Normal Circumstances" in the Wetland Definition [now expired];
- RGL No. 88-11: Mall Properties, Inc. v. Marsh;
- RGL No. 88-13: National Environmental Policy Act (NEPA) Scope of Analysis and Alternatives;
- RGL No. 90-7: "Clarification of the Phrase 'Normal Circumstances' as it pertains to Cropped Wetlands."

The following brief chronology of cases affecting wetlands regulations may also be of use to you:

1975 NRDC v. Callaway, the court held that the Clean Water Act required the Corps to provide expanded coverage of wetlands to include not only actually navigable waters but also tributaries of such waters, interstate waters and their tributaries, and nonnavigable intrastate waters whose use or misuse could affect interstate commerce.

[1977 - Congress amends the FWPCA, renaming it the CWA]

1978 U.S. v. Fleming Plantations, the court held that an area does not have to be inundated by surface water to have adequate wetlands hydrology. Groundwater as well as rainwater can create adequate hydrology for wetlands.

[1980 - EPA issues its final (b)(1) guidelines for evaluating 404 permit applications.]

1981 U.S. v. Lee Wood Contracting, Inc., the courts have upheld the Corps' liberal view of "adjacency" and have found that wetlands separated from other waters by manmade dikes or barriers can still meet the definition as long as all the wetlands parameters are present.

1982 U.S. v. Carter, the court held the presence of transitional species does not remove an area from wetlands classification.

1983 Avoyelles Sportsmen's League, Inc. v. Marsh, the court upheld the Corps' three parameter definition of wetland. The court also held that "typically adapted for life in saturated soils" did not limit wetlands plant species to those able to survive their entire life cycle in saturated soils. The courts have not required the exclusive presence of wetlands-type vegetation in every instance to conclude that a jurisdictional wetlands exists.

1984 National Wildlife Federation v. Marsh, the court held that the Corps must amend its regulations to modify Nationwide Permit 26 to require individual permits for areas 10 acres or larger.

1985 U.S. v. Riverside Bayview Homes, Inc., Supreme Court held that the Corps definition of waters of the United States for §404 purposes included wetlands adjacent to navigable waters, even if not inundated or frequently flooded by navigable waters. The Court did not reach the issue of non-adjacent waters.

1989 U.S. v. Malibu Beach, Inc., the court noted that the presence of water 8 to 9 inches from the surface was enough to establish the soil's criterion for wetlands.

1990 Leslie Salt Co. v. U.S., the Court of Appeals held that Corps has jurisdiction over man-made wetlands were subject to CWA jurisdiction even though they had been created by acts of the state [or state agencies]. Further, the court upheld the Corps' establishment of interstate commerce on the basis that waters may provide habitat to migratory birds and endangered species.

The housing industry continues to bear the brunt of federal wetlands regulatory protection efforts even though it causes only six percent of the wetlands losses in this country. The industry shoulders a radically disproportionate share of the regulatory burden while the major part of the problem--agriculture--remains largely exempt. Increases in fees and delays in permit processing times all add to the cost of a new home. Even seemingly small amounts can have a radical effect. For example, in Louisiana, if you raise the cost of a home from $75,000 to $77,000, you will put 13,604 households out of the market.

I hope this information has proved useful. If you have any further questions, please don't hesitate to call me. My number is 202/822-0484.

Sincerely,

Phoebe Schlanger

Phoebe Schlanger
Environmental Policy Analyst
Environmental Regulation Department

Enclosures

47TH ANNUAL NAHB CONVENTION AND EXPOSITION

January 18-21, 1991
Georgia World Congress Center
Atlanta, GA

FEDERAL WETLANDS PROGRAM UNDER THE CLEAN WATER ACT

Presented by

Virginia S. Albrecht
Beveridge & Diamond, P.C.
Washington, D.C.
(202) 789-6030

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BEVERIDGE & DIAMOND, P. C.

Virginia S. Albrecht
Beveridge & Diamond, P.C.
Washington, D.C.
(202) 789-6000

January 18 - 21, 1991

I. Background

A. Federal regulation of dredge-and-fill activities dates back to the Rivers and Harbors Act of 1899, which prohibited the placement of "structures," other "obstructions" (including dredged spoil), and work (e.g., dredging) in navigable waters of the U.S. except in accordance with a permit issued by the U.S. Army Corps of Engineers ("Corps"). 33 U.S.C. §§ 401 et seq. The original purpose of dredge-and-fill regulations was to protect and promote navigation.

B. The 1972 Clean Water Act, 33 U.S.C. §§ 1251 et seq., set forth a far broader federal interest ("to restore and maintain the chemical, physical and biological integrity of the Nation's waters") and expanded the scope of federal regulation beyond "navigable waters" to include all "waters of the United States." See NRDC v. Callaway, 524 F.2d 79 (2nd Cir. 1975).

1. Section 301 of the Act prohibited the discharge of any pollutant into the Nation's waters except in compliance with permits issued under the Act. 33 U.S.C. § 1311.

2. The term "pollutant" was defined to include "dredged spoil," 33 U.S.C. § 1362(6). The term "waters of the United States" includes "adjacent wetlands." 33 C.F.R. § 328.3.

3. The original Senate bill treated disposal of dredged spoil as any other pollutant discharge to be regulated by the Environmental Protection Agency ("EPA") under Section 402. S.2770, 92d Cong., 1st Sess. (1971), reprinted in A Legislative History of the Water Pollution Control Act Amendments of 1972 ("1972 Leg. Hist."), Vol. 2, at 1534, 1685-92.

4. In the final bill, Congress excepted dredge-and-fill material discharges from EPA's authority and carved out a separate permitting program, administered by the Corps of Engineers, to regulate the discharge of such materials. 33 U.S.C. § 1344. The Corps was given the

permitting authority in recognition of its long expertise in regulating and carrying out dredge-and-fill activities and to avoid creation of a "burdensome bureaucracy," 1972 Leg. Hist., Vol. 1, at 177.

II. The Statutory Division of Authority Under Section 404

A. Individual Permits. The Corps of Engineers is the permitting authority. 33 U.S.C. § 1344(a).

B. Development of Guidelines. In considering whether to issue a permit, the Corps must apply "guidelines" developed by EPA "in conjunction with" the Corps. 33 U.S.C. § 1344(b). These "404(b)(1) guidelines" are binding on the Corps.

C. "Veto" Authority. EPA is authorized to veto a Corps permit or to prevent the Corps from issuing a permit if EPA determines a proposed project will have an "unacceptable adverse effect" on municipal water supplies, shellfish beds and fishery areas (including spawning or breeding areas), wildlife or recreational areas. 33 U.S.C. § 1344(c).

D. General Permits. The Corps is authorized to issue "general permits" for categories of activities that are similar in nature and have minimal individual or cumulative adverse environmental effects. 33 U.S.C. § 1344(e).

E. State Administration. EPA is authorized to approve and rescind approval of any State proposal to administer an individual and general permit program regulating dredge- and-fill discharges into intrastate waters. 33 U.S.C. § 1344(g)-(1). (Michigan is the only state that has ever sought such authority. New Jersey plans to apply for program authority. (New Jersey Freshwater Wetlands Protection Act (Pub. L. 1987), C. 156, amending Pub. L. 1977, C. 74 of N.J. Revised Statutes Tit. 13 (1987)).

F. Enforcement of Permit Conditions. The Corps is authorized to issue an administrative order or institute a civil action (seeking an injunction and penalties) to enforce compliance with a 404 permit it has issued. 33 U.S.C. § 1344(s). Section 314 of the Water Quality Act of 1987 gave the Corps authority to assess administrative penalties for violations of 404 permits. 33 U.S.C. § 1319(g)(1)(B).

G. Enforcement Proceedings to Halt Unauthorized Discharges or to Enforce Conditions of a State-Issued 404 Permit. EPA is authorized to issue an administrative order, institute a civil action (seeking penalties and/or an injunction), or assess an administrative penalty for any unauthorized discharge or violation of a state-issued 404 permit. 33 U.S.C. § 1319. Under Section 309(g), EPA may assess penalties up to $125,000 after providing an opportunity for a hearing before an administrative law judge.

III. Standards Governing Permitting Decisions

In determining whether to issue a 404 permit, the Corps considers (1) the 404(b)(1) guidelines; (2) the Corps' public interest review regulations; and (3) other statutory authorities.

A. The 404(b)(1) Guidelines, 40 C.F.R. § 230, establish the substantive environmental criteria for 404 activities and set forth the "water-dependency" and "practicable alternatives" tests that are designed to steer development away from wetlands.

The Guidelines incorporate four major elements:

1. Alternatives Analysis

a. No permit will be issued if there is a practicable alternative to the proposed discharge that would have less adverse impact on the aquatic ecosystem. 40 C.F.R. § 230.10(a)(1).

b. For projects that do not require access to water, the Guidelines presume that there are practicable alternatives to a wetlands site and that the alternatives will have less adverse impact on the aquatic ecosystem. Id. at § 230.10(a)(3).

c. To be practicable, an alternative must be feasible and available.

"An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered." 40 C.F.R. § 230.10(a)(2).

d. To be practicable, an alternative must satisfy the applicant's basic project purpose.

1) In Louisiana Wildlife Federation v. York, 761 F.2d 1044 (5th Cir. 1985), affirming 603 F. Supp. 518 (W.D. La. 1984), an environmental group challenged the Corps' issuance of a 404 permit for soybean production, asserting that the Corps' alternatives analysis should be conducted "in terms of environmental maintenance." 603 F. Supp. at 528. The Court rejected the environmentalists' argument, stating:

> "[N]ot only is it permissible for the Corps to consider the applicant's objective; the Corps has a duty to take into account the objectives of the applicant's project. Indeed, it would be bizarre if the Corps were to ignore the purpose for which the applicant seeks a permit and to substitute a purpose it deems more suitable." 761 F.2d at 1048.

2) Accord Friends of the Earth v. Hintz, 800 F.2d 822 (9th Cir. 1986); Bersani v. EPA, 850 F.2d 36 (2d Cir. 1988), cert. denied, 109 S. Ct. 1556 (1989).

3) However, the Corps should not defer to a developer's definition of basic project purpose when that definition is so narrow that it will preclude the existence of practicable alternatives. Thus, in Hartz Mountain 404(q) Elevation, HOUSACE Findings (July 25, 1989), the Corps rejected the developer's definition of the basic project purpose as construction of 3,301 housing units in a single large scale development. The developer did not rebut the presumption of alternative non-wetland sites because it did not

demonstrate that, to be feasible, the development had to be of some minimum size. Therefore, although there were no practicable alternatives for a single development of 3,301 units, the developer should have evaluated alternative smaller sites.

4) In the most recent elevation decision, the Corps found a project purpose statement, which included specific numbers of units and references to the economic viability of the project, to be too closely related to the applicant's proposal. Old Cutler Bay 404(q) Elevation, HQUSACE Findings (September 13, 1990). However, the Corps indicated that the project purpose could appropriately be stated as the construction of a "viable upscale residential community with an associated regulation golf course." The Corps stated that a project cannot be so broadly defined nor so narrowly defined as to render the alternatives analysis meaningless.

5) Where a multipurpose project involves some elements that require access to water and others that do not, the Corps will accept a developer's definition of basic project purpose where the developer demonstrates a legitimate interrelationship among project components. Thus, in Sylvester v. Corps of Engineers, 882 F.2d 407 (9th Cir. 1989), where market research indicated that a quality 18-hole golf course was "an essential element for a successful Alpine destination resort," the Corps accepted the developer's assertions that the golf course was an integrated part of the "basic project purpose." By contrast, in Permit Elevation, Plantation Landing Resort, Inc., (April 21, 1989), the Corps rejected the developer's assertion that all the components of the multipurpose project were "integrated" and therefore all required access to water because one of the project elements was a water-

dependent marina. Accordingly, each of the project elements was required to meet the "practicable alternatives" test independently of the other elements. Most recently, in Old Cutler Bay, supra, Corps headquarters accepted, albeit without discussion, the premise that the residential community and "associated" golf course were integrated. As a result, the project components were not subjected to individual alternatives analyses.

6) Accord Shoreline Associates v. Marsh, 555 F. Supp. 169 (D. Md. 1983) (upholding the Corps' refusal to issue a permit for construction of housing and boat launching and storage facilities, because such boating facilities were "merely incidental" to the basic project purpose of townhouse development).

7) The Corps also must take into consideration the public need for a proposed activity in determining whether there are feasible alternatives to it. Thus, in North Carolina v. Hudson, 665 F. Supp. 428 (E.D.N.C. 1987), a court ordered the Corps to reconsider its issuance of a permit to allow construction of a water pipeline to Virginia Beach from a North Carolina lake, saying the Corps failed to adequately consider the community's need for water.

e. To be practicable, an alternative must be available to the applicant.

1) In National Audubon Society v. Hartz Mountain Development Corp., 14 Envtl. L. Rep. (Env. L. Inst.) 20,724 (D.N.J. Oct. 24, 1983), the court upheld the Corps' view that alternatives must be available to the applicant, holding that the Corps' rejection of alternative sites owned by other developers was proper because they "cannot be acquired" by the applicant. Id. at 20,731.

2) In the administrative phase of the Attleboro Mall case, the Corps proposed to issue a 404 permit for a shopping center project, but EPA initiated a 404(c) proceeding to "veto" the project. EPA's Region I office argued, among other things, that the applicant did not satisfy the "practicable alternatives" test because another developer planned to build a mall three miles away. According to the regional office, the other mall would satisfy the basic project purpose (to construct a shopping mall) and the fact that the other mall was not available to the applicant was irrelevant. It was enough that someone would satisfy the project purpose. EPA headquarters rejected Region I's analysis, stating that "'availability to the applicant' is the correct test to apply to this case." Final Determination of the Assistant Administrator for External Affairs Concerning the Sweedens Swamp Site in Attleboro, Massachusetts Pursuant to Section 404(c) of the Clean Water Act, p. 20 (May 13, 1986, unpublished) (emphasis added).

3) EPA headquarters, however, held that the alternative was "available" to the developer because the developer could have purchased the site when it "entered the market." Such a site would be deemed "available" even though by the time the developer applied for its permit the site could not be obtained. Id.

4) The developer appealed, arguing that the regulations require availability to be determined as of the time the permit is under review and that "market entry" is a meaningless standard since most developers are constantly evaluating the real estate market. That is, developers are never not in the market. The developer asked whether market entry occurs when the developer commissions a market research study, talks to the first real estate agent, begins

inspecting sites, discusses financing with potential lenders, or rules out other competing investment opportunities.

5) Both the district court and the Second Circuit (in a 2-1 opinion) held for EPA. The Second Circuit did not define what was meant by "market entry" or require the Agency to do so, stating instead that "it is unnecessary to pin down the standard." Bersani v. EPA, 850 F.2d 36, 46 (2d Cir. 1988), cert. denied, 109 S. Ct. 1556 (1989).

6) The dissenting judge in the Second Circuit stated that EPA's "market entry theory approaches a sensitive environmental problem through a time warp, it ignores the statute's basic purpose, and it creates unfair and anomalous results." 850 F.2d at 48. With regard to the vagueness of market entry, Judge Pratt observed, "[I]n a business that needs as much predictability as possible, the market entry theory will regrettably inject exquisite vagueness . . . Such a vague standard . . . falls far short of the requirement that an agency articulate its standards with sufficient clarity so that the affected community may know what those standards are." Id. at 49.

2. Significant Degradation, 40 C.F.R. § 230.10(c): The regulations state that a discharge of dredged or fill material will not be permitted if the action would cause or contribute to "significant degradation" of the waters of the United States.

a. Effects contributing to significant degradation, considered individually or collectively, are listed as those resulting from the discharge of pollutants on:

- human health or welfare;
- life stages of aquatic life and other wildlife dependent on aquatic ecosystems;

- aquatic ecosystem diversity, productivity, and stability; or
- recreational, aesthetic, and economic values.

b. In Sierra Club v. U.S. Army Corps of Engineers, 614 F. Supp. 1475, 1495 (S.D.N.Y. 1985), a proposed landfill and highway construction project expected to deplete striped bass populations by 20 to 33 percent was deemed a conclusive showing of a significant degradation for which a permit would not have been issued. The court, finding that the Corps acted arbitrarily and capriciously in revising without adequate explanation its own findings, issued a permanent injunction against the project. Id. at 1516-17.

3. Mitigation, 40 C.F.R. § 230.10(d): The regulations require applicants to take all practicable steps to minimize the adverse impacts of proposed filling activities. However, the regulations do not define what will be considered as satisfying the regulation. EPA and the Corps recently issued a Memorandum of Agreement ("MOA") Concerning the Determination of Mitigation Under the Section 404(b)(1) Guidelines (Feb. 6, 1990). The MOA is a directive for Corps and EPA personnel which must be adhered to when considering mitigation requirements for standard permit applications. Although the MOA reduces uncertainty with respect to several issues, some questions remain unanswered.

a. Policy Goal -- No Net Loss: The MOA adopts the goal of no overall net loss of wetland values and functions. By emphasizing wetland "values and functions," the MOA authorizes a less than one to one replacement of wetland acreage where the wetlands lost are significantly degraded. Although the MOA recognizes that the "no net loss" goal may not be achieved with respect to every permit application, it does not address whether such losses may be "made up" on other permit applications, thus meeting the "no overall net loss" requirement.

b. Sequencing: The MOA sets up a strict sequence of regulatory considerations: avoidance, minimization, and compensatory mitigation.

- First, wetland impacts must be avoided to the maximum extent practicable. Cost, existing technology, and "logistics in light of overall project purposes" may be considered in determining what is "practicable." In evaluating alternative upland sites, the adverse environmental impacts at the upland site must be considered before concluding that a "practicable alternative" exists.

- If unavoidable impacts remain, they must be minimized to the extent appropriate and practicable.

- Only as a last resort, where unavoidable adverse impacts remain after minimization procedures, may the Corps consider compensatory mitigation proposals. Thus, the Corps may not consider a compensatory mitigation proposal if it determines that adverse impacts may be avoided.

- The sequencing requirement does not apply where the project will result in insignificant environmental loss or environmental gain. Thus, where a large project site contains insignificant wetland acreage, the project may be exempt from the sequencing requirement.

c. Wetland Evaluation Methodology: The MOA specifies that "functional values" of wetlands should be determined by applying aquatic site assessment techniques generally recognized by experts in the field. These resource assessments should be tailored to the particular site and performed by qualified professionals. Despite this clarification in the MOA, scientific uncertainty concerning assessment results remains.

d. Kind of Mitigation Required: The MOA states a preference for in-kind compensatory mitigation over out-of-kind. The MOA also prefers on-site mitigation measures to off-site, but where off-site measures are necessary, they should be in close physical proximity to the affected site and preferably in the same watershed. Finally, restoration of degraded wetlands is preferred over creation of new wetlands, because of scientific uncertainty with respect to the success of wetland creation.

e. Amount of Mitigation Required: The MOA requires at least a "one for one functional replacement (i.e., no net loss of values), with an adequate margin of safety to reflect the expected degree of success associated with the mitigation plan." However, the MOA recognizes that one to one replacement of functional values may not be appropriate and practicable in all cases, such as where hydrological conditions make restoration or replacement impracticable, or where there is a high proportion of wetlands. Thus, where replacement is practicable and the wetland filled and wetland "created" have the same value, a one to one ratio of replacement acreage is required. Where, on the other hand, the wetland being impacted has high functional values and the replacement acreage has lower functional values, a developer may have to replace more than one acre of wetlands for every acre lost. Similarly, the MOA authorizes a less than one to one replacement of wetland acreage where the wetlands lost are significantly degraded.

4. Water Quality Certification, 40 C.F.R. § 230.10(b). The applicant must obtain state certification that the proposed discharge will comply with applicable effluent limitations and water quality standards.

B. The Corps' "Public Interest Review" ("PIR"), 33 C.F.R. § 320.4, which is applicable to all Corps' permitting programs, requires an ad hoc balancing of a project's likely benefits against its reasonably foreseeable detriments to determine whether the project is in the public interest.

1. **Factors to be considered include, among others, economics, wetlands, fish and wildlife values, water quality, energy needs, public and private need for the project, historical values, and state and local land use decisions.**

    a. **An application that does not comply with the 404(b)(1) Guidelines will be denied.**

    b. **A permit will be granted unless the Corps determines that it would be contrary to the public interest.**

2. **At least one district court has construed the regulations to require that the Corps' public interest analysis be based on changes in the environment, as opposed to the nature of the project itself. In Mall Properties, Inc. v. Marsh, 672 F. Supp. 561 (D. Mass. 1987), appeal dismissed, 841 F.2d 440 (1st Cir.), cert. denied, 109 S. Ct. 128 (1988), the court concluded the Corps exceeded its authority by basing the permit denial on socio-economic harms not proximately related to changes in the physical environment.**

C. **Other Statutes and Authorities**

1. **Under the National Environmental Policy Act, 42 U.S.C. §§ 4321 et seq., the Corps must consider the environmental impacts of the proposed activity and, if it determines that the activity will have a significant impact on the human environment, it must prepare an environmental impact statement.**

2. **Under the Fish and Wildlife Coordination Act, 16 U.S.C. §§ 661 et seq., the Corps must consult with the Department of the Interior's Fish and Wildlife Service, the Department of Commerce's National Marine Fisheries Service, and relevant state resource agencies concerning potential impacts on fish and wildlife and mitigation measures that could be implemented. The Corps is not required to adopt the recommendations of these agencies but must give "full consideration" to their views in deciding on the issuance, denial or conditioning of permits. Furthermore, under Memoranda of Understanding between the Corps and the federal resource agencies, the resource agencies may request elevation of permit decisions to higher levels within the Corps if they are not satisfied with a decision by the Corps' district**

office. Elevation can lengthen the permit review period substantially.

3. Some of the other statutes that may require consultation with federal and/or state agencies include:

   - the Coastal Zone Management Act, 16 U.S.C. §§ 1451 et seq.,
   - the Endangered Species Act, 16 U.S.C. §§ 1531 et seq.,
   - the National Historic Preservation Act, 16 U.S.C. §§ 470 et seq.,
   - the Preservation of Historical and Archaeological Data Act, 16 U.S.C. §§ 469 et seq., and
   - the Marine Mammal Protection Act, 16 U.S.C. §§ 1361 et seq.

4. As a practical matter, the Corps will be mindful of other significant EPA authorities:

   - Under a Memorandum of Understanding ("MOU") between the Corps and EPA, EPA may request "elevation" to higher Corps authority of any Corps decision with which it is dissatisfied.
   - Under 42 U.S.C. § 7609, EPA is required to review and comment on environmental impact statements to determine whether a proposed action is "environmentally satisfactory." If the project is not "environmentally satisfactory," EPA may request that the Corps prepare a supplemental EIS or refer the matter to the Council on Environmental Quality.
   - Under Section 404(c), EPA has authority to veto a permit. In its Final Determination Conerning the Two Forks Water Supply Impoundments (November 23, 1990), EPA exercised its veto authority to deny issuance of a 404 permit, citing two reasons for its action. First, the project would cause significant loss or damage, and practicable, less damaging alternatives were available. Second, even if no practicable alternatives

were available, the damage to fishery and recreational areas would be so great as to constitute an unacceptable adverse effect that could not be compensated by proposed mitigation.

- In James City County, Virginia v. EPA, No. 89-156 (E.D. Va. Nov. 6, 1990), a veto by EPA was reversed by the district court. In that case, the court stated that, where the project was water dependent, EPA could not presume that alternatives did exist. Notwithstanding EPA's incorrect presumption, the court further ruled that because EPA's proposed alternatives were not practicable, and the county was in need of a water supply, the veto was improper.

IV. Nationwide Permits, 33 C.F.R. § 330, are a form of general permit that the Corps has issued by rulemaking pursuant to its authority under 33 U.S.C. § 1344(e). These permits authorize certain activities that individually and collectively are judged to have minimal adverse environmental impacts (e.g., minor road crossings).

A. To operate under one of these permits, the applicant must:

1. Comply with all conditions set forth in the regulations, 33 C.F.R. § 330.5(b).

2. Obtain individual state water quality certification, if the state has not issued a blanket certification for activities conducted pursuant to the permit. Id. at § 330.9.

B. Permit No. 26 is the most important of the nationwide permits. 33 C.F.R. § 330.5(a)(26). This permit authorizes discharges of dredged or fill material into waters:

- which cause the loss or substantial adverse modification of 10 acres or less of waters,
- that are located above the headwaters, or
- that are not part of a surface tributary system to interstate waters or navigable waters of the United States, i.e. isolated waters.

C. To operate under Nationwide Permit No. 26, the developer must notify the Corps before he conducts the discharge if the discharge will affect more than one acre of "waters" and, in all cases, must obtain state water quality certification. *Id.*, §§ 330.7, 330.9.

D. A discharge of fill into a wetland falling within the parameters of Permit No. 26 may constitute a defense to an alleged violation of discharging without a permit under the Clean Water Act. However, non-conformance with Permit No. 26 is not an element needed to be proved for such a violation, according to a district court in *U.S. v. Key West Towers, Inc.*, 696 F. Supp. 1467, 1469 (S.D. Fla. 1988). There, the court denied a motion for judgment notwithstanding the verdict sought by defendants who failed to raise the defense in a timely manner.

E. In addition, even if a party's activities meet the requirements of a Permit No. 26, it may still be unable to avail itself of the defense if no water quality certification has been issued by the state. In *U.S. v Marathon Development Corp.*, 867 F.2d 96, 99 (1st Cir. 1989), the criminal convictions of a development firm, a real estate firm, and its senior vice president were upheld upon the First Circuit's conclusion that the nationwide permit was not applicable in Massachusetts, where the activity took place. The court refused to consider whether the defendants' activities caused the "loss or adverse modification" of less than one acre of an isolated wetland in order to meet the requirements of Permit No. 26, "as Massachusetts had denied the water quality certification that is requisite to the granting of a federal permit."

V. Major Issues

A. Jurisdiction

The definition of "waters of the United States" falling under the jurisdiction of the Clean Water Act has evolved from what once could be construed practically as "navigable waters" into one much more sweeping in scope. Today, the meaning of "navigable waters" is very broad, restricted only by the limits of constitutional power. *See, e.g., United States v. City of Fort Pierre*, 747 F.2d 464, 465 (8th Cir. 1984) (stating that courts, in determining the Clean Water Act's jurisdictional reach, must bear in mind Congress' intent to extend jurisdiction to full extent permissible under Constitution). As a result, the jurisdictional limits of the Clean Water Act have been pushed farther inland, incorporating areas not previously treated or thought of as water or wetlands. The term "wetlands" is defined by the Corps as:

> ... areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

33 C.F.R. § 328.3(b).

1. Adjacent Wetlands: One class of waters not previously thought of as falling under Clean Water Act jurisdiction are those deemed adjacent to waters that otherwise meet the jurisdictional requirement. The Supreme Court in United States v. Riverside Bayview Homes, 474 U.S. 121 (1985), unanimously upheld the Corps' application of the statute to adjacent wetlands.

   a. The regulations define "adjacent" as meaning "bordering, contiguous, or neighboring..." 33 C.F.R. § 323.2(d).

   b. In United States v. Lee Wood Contracting, Inc., 529 F. Supp. 119, 120 (E.D. Mich. 1981), it was held that a wetland area met the statutory definition of an adjacent wetland because it was connected to a river by a slough and therefore was contiguous.

   c. The Corps may not, however, establish jurisdiction by taking action that creates a wetland on private property. Thus, in United States v. City of Fort Pierre, 747 F.2d 464 (8th Cir. 1984), the Corps had no jurisdiction over wetlands created as a result of dredging activity, even where the creation of such wetlands was inadvertent. Id. at 466, 481.

   d. However, the fact that connection to waters of the United States was artificially created by government action will not generally bar Corps jurisdiction. In Leslie Salt Co. v. United States, 896 F.2d 354 (9th Cir. 1990), petition for cert. filed, No. 90-792 (Nov. 19, 1990), a portion of Leslie's property was flooded when the Fish and Wildlife Service breached a levee on an adjacent wildlife refuge, allowing water to flow onto the property through culverts constructed by a state agency. Reversing the district court, the Ninth Circuit held that "Congress intended to regulate local aquatic ecosystems regardless of their origin." The fact that the government was partially responsible for flooding Leslie's land was irrelevant, as long as "the Corps did not itself create the wetland conditions and thereby attempt to expand its own jurisdiction."

e. Wetlands that are not contiguous but that affect the water quality and aquatic ecosystems of navigable waters may also be considered "adjacent wetlands." For example, in Conant v. United States, 786 F.2d 1008 (11th Cir. 1986), the wetland trapped undesirable pollutants and sediments before they reached a navigable river, and was therefore held to be "adjacent."

f. However, where no drainage or ecological connection can be demonstrated between the wetland and a "water of the United States," the wetland is not "adjacent" and the Corps may not assert jurisdiction over such wetland on that basis. In re: The Hoffman Group, Inc., No. CWA 88-AO-24 (Sept. 15, 1989), rev'd on other grounds, CWA Appeal No. 89-2 (Nov. 19, 1990), appeal filed (7th Cir. Dec. 19, 1990)

2. Isolated Waters: The Clean Water Act's jurisdiction also is extended by regulation over certain intrastate waters not part of a surface tributary system, i.e. "isolated" waters, if their "use, degradation or destruction ... could affect interstate or foreign commerce." 33 C.F.R. § 328.3(a)(3). Examples of the kinds of activities that could affect interstate or foreign commerce are listed as:

- Use by interstate or foreign travelers for recreation purposes;

- Waters from which fish or shellfish are taken which are sold in interstate or foreign commerce; and

- Waters which are used or could be used for industrial purposes by industries in interstate commerce.

Id.

a. There has been little judicial analysis of what types of isolated waters are excluded from the Clean Water Act's jurisdiction. In Riverside Bayview Homes, 474 U.S. at 131, the Supreme Court specifically left open the question whether "isolated wetlands" (i.e., wetlands that do not have a hydrological connection to "waters of the United States") are within Clean Water Act jurisdiction. Id. at 131 n.8.

b. In McClellan Ecological Seepage Situation (MESS) v. Weinberger, 707 F. Supp. 1182, 1195 (E.D. Cal. 1988), it was held that isolated groundwater does not come within the jurisdiction of the act. The court distinguished Riverside Bayview Homes on the ground that the site at issue in that case was a wetland adjacent to bodies of water that were navigable in the traditional sense, and was not groundwater. Id. The court noted that the Corps had concluded that "wetlands adjacent to lakes, rivers, streams, and other bodies of water may function as integral parts of the aquatic environment." Id.

c. In Leslie Salt Co. v. United States, 896 F.2d 354 (9th Cir. 1990) petition for cert. filed, No. 90-792 (Nov. 19, 1990), the court held that crystallization basins and calcium chloride pits formerly used for salt production could be subject to Corps jurisdiction, provided those waters have sufficient ties to interstate commerce. The Ninth Circuit rejected the district court's assertion that Corps jurisdiction extends only to natural formations, holding that "the Corps intends to exempt from its own jurisdiction only those artificially created waters, which are currently being used for commercial purposes, and that even those waters are subject to such jurisdiction on a 'case-by-case' basis of review." The salt pits in question had been abandoned for decades. The Ninth Circuit also rejected the lower court's conclusion that the pits and crystallizers were not waters because water only collected in them during the rainy season. The Ninth Circuit noted that "the seasonal nature of the ponding is no obstacle to Corps jurisdiction," because intermittent streams and playa lakes are specifically enumerated as the type of isolated waters over which the Corps may have jurisdiction. The Court remanded for a determination of the existence of sufficient connections to interstate commerce, noting, however, that the use of the waters by migratory birds and endangered species would probably satisfy this requirement.

3. *Migratory birds*: The Corps also uses migratory birds to establish an effect on commerce for purposes of jurisdiction over isolated wetlands. The Corps based this interpretation of the Act's jurisdictional reach on an internal legal memorandum prepared by EPA's general counsel in 1985, but has never incorporated the "migratory bird memo" into the published regulations. *See* 51 Fed. Reg. 41217 (Nov. 13, 1986).

    a. In *Hoffman*, *supra*, EPA overturned an administrative decision which had held that the Agency did not have jurisdiction over an isolated wetland pocket because there was no evidence that birds actually used the site. The Chief Judicial Officer held, instead, that the effect on commerce could be established by *potential* migratory bird usage and that since the area in question was suitable for migratory birds, potential use was established. *In re: The Hoffman Goup, Inc.*, CWA Appeal No. 89-2 (Nov. 19, 1990), *appeal filed* (7th Cir. Dec. 19, 1990).

    b. In *Tabb Lakes v. United States*, No. 87-635-N (E.D. Va., Nov. 7, 1988), the court rejected the Corps' use of migratory birds to assert jurisdiction because the Corps had not published a formal rule establishing migratory birds as a jurisdictional base. On appeal, the Fourth Circuit upheld the lower court, finding that the "migratory bird rule" was a substantive rather than an interpretive rule, and that the provision could not be effective without a prior opportunity for notice and comment. Tabb Lakes, Ltd. v. United States, No. 89-2905 (4th Cir. Sept. 19, 1989) (unpublished).

4. Exemptions: Under the Act, certain discharges are exempted from regulation. Exempted discharges include those related to normal farming activities and maintenance of existing structures. 33 U.S.C. § 1344 (f).

5. Prior Converted Croplands: In a recent Regulatory Guidance Letter (No. 90-7, Sept. 26, 1990), the Corps stated that areas that qualify as "prior converted cropland" as defined by the Soil Conservation Service are not subject to regulation under Section 404. Such areas must have been cropped prior to December 23, 1985 and must be inundated for no more than 14 consecutive days during the growing season. If such croplands are not farmed for five years and wetland conditions return, they will again be subject to federal jurisdiction.

B. Regulated Activities

1. Until recently, EPA, the Corps, and courts have held that Section 404 regulates only physical discharges of dredged or fill material into navigable waters. See, e.g., United States v. Lambert, 589 F. Supp. 366 (M.D. Fla. 1984). This is consistent with the plain language of Section 404 as well as the basic provisions of the statute, which regulates "discharges" of pollutants. 33 U.S.C. § 1311(a).

a. In Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897 (5th Cir. 1983), the court held that certain land-clearing activities, which resulted in redeposits of material taken from the wetland, constituted a discharge of a pollutant and, therefore, required a dredge-and-fill permit. Significantly, the government argued that "mere removal" of vegetation from a wetland would not constitute a discharge because "the term discharge is defined as the 'addition' of pollutants, not the removal of materials." Id. at 922. Noting that the case involved more than "mere removal," the court declined to rule on the government's argument but did hold that the bulldozer used for clearing constituted a "point source" and that material discharged as a result of the landclearing activities constituted "fill material." Corps regulations define "fill material" as "any material used for the primary purpose of replacing an aquatic area with dry land or of changing the bottom elevation of a waterbody."

b. In a recently issued Regulatory Guidance Letter 90-5 (July 18, 1990) ("RGL"), the Corps abandoned its position in Avoyelles, supra, and its previous RGLs on landclearing, stating that all landclearing activities using mechanized equipment are subject to 404 permit requirements. However, landclearing activities that are not carried out with chain saws are not subject to regulation.

2. A recent Texas case held for the first time that an activity need not involve a discharge to be regulated under Section 404. In Save Our Community v. EPA, 741 F. Supp. 605 (N.D. Texas 1990), an environmental group challenged an EPA/Corps determination that they did not have legal jurisdiction to require a permit when the only activity conducted on a legally-designated wetland was drainage through mechanical means. No unauthorized discharges were made during the draining process. The court found that draining a "legally designated" wetland property is a regulated activity under § 404(b), requiring a permit when the draining would alter or destroy the wetland.

3. In a recent Regulatory Guidance Letter (No. 90-8, Dec. 14, 1990), the Corps addressed the applicability of section 404 to projects constructed with pilings. In that RGL, the Corps stated its intention to regulate projects placed on pilings when the placement of such pilings "is used in a manner essentially equivalent to a discharge of fill material in physical effect or functional use and effect."

C. Wetlands Delineation

1. The Corps and EPA have adopted the same regulatory definition of wetlands:

> The term "wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.
>
> 33 C.F.R. § 328.3(b) (Corps); 40 C.F.R. § 230.3(t) (EPA).

2. Although in the past the two agencies often disagreed on whether a given area is wetlands, in January 1989, the agencies agreed to issue a joint "Federal Manual for Identifying and Delineating Jurisdictional Wetlands." This manual, if it is used consistently, should resolve some of the interagency uncertainties surrounding wetlands delineation. However, the manual appears to have resulted in a significant expansion of federal jurisdiction. The agencies held a series of informal meetings during the summer of 1990 to receive public comments on the manual, although to date there is no plan to subject the manual to any kind of formal peer review or to formal rulemaking procedures under the Administrative Procedure Act.

3. The situation is made even more complicated by the fact that the Fish & Wildlife Service has used a wholly different wetlands definition and delineation methodology to develop National Wetlands Inventory maps. These maps are widely referenced but are often misleading for establishing 404 jurisdiction.

4. The statute does not specify which agency, the Corps or EPA, has authority to make jurisdictional determinations. Nor does it define how to proceed when the two agencies disagree on whether a particular site is subject to regulation under Section 404.

a. From 1972 to 1979, the Corps routinely made jurisdictional determinations as part of its permitting program.

b. On September 5, 1979, responding to a dispute between EPA and the Corps, Attorney General Civiletti issued an opinion stating that EPA has "the final administrative authority" for determining the reach of waters subject to regulation under Section 404.

c. Thereafter, EPA and the Corps entered into a Memorandum of Understanding under which the Corps continues to make most jurisdictional determinations. EPA makes jurisdictional determinations in "special cases" involving significant technical and/or policy issues, and the two agencies work together in enforcement situations. 45 Fed. Reg. 45,018 (1980).

d. On January 19, 1989, the agencies entered into a new Memorandum of Agreement which essentially retains the division of responsibility set out in the 1980 MOU and makes it applicable also to determinations whether a particular activity is exempt from Section 404 regulation by virtue of Section 404(f). The new MOA also states specifically that determinations made in accordance with the MOA will be "binding on the Government." Thus, it seems less likely that EPA could attempt to overturn a Corps determination than was the case under the 1980 MOU.

D. Takings Claims

1. Protectable Property Interest

a. In order to determine whether a regulatory "taking" has occurred, a court must first determine whether the claimant has a protectable property interest in the parcel alleged to be taken. Where the government action eliminates a public nuisance, courts will generally not find a taking; a landowner has no property right or reasonable expectation in creating a nuisance. Mugler v. Kansas, 123 U.S. 623, 668-69 (1887).

b. However, courts have generally found that dredging or filling a wetland does not constitute a nuisance. Ciampitti v. United States, 18 Cl. Ct. 548 (1989). See e.g., Florida Rock Industries, Inc. v. United States, 21 Cl. Ct. 161, 31 Env't Rep. Cas. (BNA) 1835 (1990) (holding that dredging associated with limestone mining is not a noxious use); Loveladies Harbor, Inc. v. United States, 21 Cl. Ct. 153, 31 Env't Rep. (BNA) 1847 (1990) (holding that filling wetlands for development is not a nuisance where it is conducted in a manner that will not violate applicable water quality standards).

c. In Florida Rock, the court noted that where a regulation draws a "line in time," allowing limestone mining initiated before regulatory changes but prohibiting mining of similar property initiated afterwards, the activity should not be considered a nuisance. Florida Rock Industries, Inc. v. United States, 31 Env't Rep. Cas. at 1840.

2. Scope of the Property Interest

a. A court must also determine the scope of the property interest which is the subject of judicial concern. In general, courts look to the "parcel as a whole," meaning the whole parcel as it was originally purchased. Keystone Bituminous Coal Association v. DeBenedictis, 480 U.S. 470 (1987) (holding that a regulation preventing mining companies from mining entire coal deposits and requiring that the "support estate" be left intact was not a taking of the support estate because the property in question was the entire deposit, most of which could still be mined); Penn Central Transportation Co. v. City of New York, 438 U.S. 104 (1978) (holding that the deprivation of the use of superadjacent airspace over Grand Central Terminal as a result of the application of a landmark preservation law was not a taking because the property in question included the station as well as the air space over it, and the law did not prevent a reasonable economic return on the property from its use as a train station). Thus, in Deltona Corp. v.

United States, 657 F.2d 1184 (Cl. Ct. 1981), cert. denied, 455 U.S. 1017 (1982), the 404 permit denial did not preclude all economically viable use of property because accessible uplands interspersed with wetlands could still be developed.

b. In recent wetlands taking cases, however, the Claims Court has declined to define the "parcel as a whole" as either the parcel which was originally purchased or the parcel that remained at the time of the alleged taking. Instead, the court looked only to the acreage to which a Section 404 permit applies and to any other acreage directly affected by the denial, such as upland acreage entirely surrounded by wetlands. Florida Rock at 1837; Loveladies Harbor at 1848. By narrowing the scope of the property interest at stake, the Claims Court has increased the economic impact of the permit denial and, thus, the likelihood that it will constitute a "taking."

3. Factors for Determining Whether a Taking Has Occurred

Although there is no set formula for determining whether a "taking" has occurred, the courts generally look to three factors: 1) the nature and character of the governmental action; 2) the economic impact on the claimant; and 3) the extent to which the regulation has interfered with investment-backed expectations. Florida Rock at 1839.

a. Nature of the Government Action: Where the government action constitutes a physical intrusion, a "taking" will occur if that intrusion is sufficient to deprive the owner of his property. However, although a denial of a permit under § 404 does not interfere with the property owner's right to possess the land, exclude others from it, or to transfer it, the result may nonetheless be confiscatory. Loveladies Harbor at 1853 n.9. Thus, the nature of the government action in wetlands cases is generally not determinative in establishing a taking; courts look to the economic factors.

b. **Economic Losses**: A "mere diminution in value" is not sufficient to establish a taking. In addition to causing substantial economic losses, the government action must effectively eliminate all viable economic use of the property.

- Thus, in Penn Central, the landmark preservation law caused a substantial diminution in value of the parcel as a whole (the Grand Central Terminal property, plus the development rights in the airspace), but the denial of the use of 100% of the airspace did not constitute a taking because the owner still had the economically viable use of the terminal.
- Denial of the highest or most profitable use is not sufficient to establish a taking. Penn Central Transportation Co. v. City of New York, 438 U.S. 104 (1978). However, in Loveladies Harbor and Florida Rock, the court measured the value of the land based on its highest and most profitable use before permit denial and compared that to its fair market value for the highest and best use after permit denial. Although courts have generally been reluctant to find that all economically viable use had been eliminated, these recent cases found that takings had occurred where substantially all the value of the property is lost as a result of the government action.
- Courts are generally backing away from the requirement that any economically viable use at all is sufficient to bar a taking claim. In a prior decision by the Federal Circuit in the Loveladies Harbor case, the court noted that if the permit denial effectively required the claimant to maintain the property as an empty lot, the court would view the action as a taking, but if the property could be used for any economically viable purpose, even for hunting or fishing, then no taking has occurred despite the substantial decrease in

expected revenues from the property. The most recent takings decisions have awarded compensation where the diminution in value has been extreme and the remaining value is minimal. For example, in the most recent decision by the Claims Court in Loveladies Harbor, the court noted that testimony that hunting would not be permitted due to the proximity of residences was unnecessary because, in any event, the fair market value of the land for its highest and best use after the permit denial (conservation and recreation) was a mere fraction of its pre-denial value for development. Loveladies Harbor, Inc. v. United States, 31 Env't Rep. Cas. at 1852. Thus, the Claims Court relied entirely on the fair market value after permit denial as a demonstration of the lack of an economically viable use.

- Moreover, the Loveladies Harbor court noted that it is unreasonable to ask the claimant to "prove a negative" (i.e., that no economic uses remain). Id. at 1851. Therefore, the claimant need only introduce sufficient proof of the "absence of real value" after permit denial to shift the burden to the government to establish that economically viable uses remain.

- An offer to purchase at a fraction of the value of the property before permit denial, made by a conservation group which would maintain the property in its natural state, is not a sufficient "economically viable use" to prevent a court from finding that a taking has occurred. Formanek v. United States, 18 Cl. Ct. 785 (as amended Nov. 20, 1989).

- Where the property includes accessible and developable uplands that are beyond the jurisdiction of the Corps and may therefore be developed without a permit, courts have noted that all economically viable use may not have been eliminated by the regulation. See Deltona Corp., supra; Ciampitti v. United States, 18 Cl. Ct. 548 (1989).

- However, where uplands are completely surrounded by wetlands, and thus permit denial effectively precludes use of the uplands, the existence of such uplands will not bar a takings claim. In fact, such upland surrounded by wetlands may themselves be taken. Loveladies Harbor at 1853.

c. Interference with Investment-Backed Expectations: Where property was initially purchased for development before enactment of the CWA in 1972, courts have generally held that investors' development expectations were reasonable. Florida Rock, supra. However, not all courts have reached this result. For example, in Deltona Corp., supra, the court noted that the claimant knew when it purchased the property in 1964 that permits from the Corps were required, and that it should have known that the standards for issuing those permits might change. Deltona Corp., 657 F.2d at 1193. The court relied on Penn Central, supra, in which the Supreme Court rejected as "quite simply untenable" the notion that a taking could be established by merely showing that the claimant has been denied the ability to exploit a property interest that it believed was available for development. Id. (citing Penn Central, 438 U.S. at 130.

4. Ripeness: Many wetlands takings cases have been challenged by the government on the ground that the claim is not ripe after only one permit denial, because a different use or smaller scale development might be approved. The general trend is that if the permit denial objected to development per se, courts will find the matter is ripe for adjudication of a takings claim, whereas if the permit denial expressed conditions or possible mitigation measures, the claim is not ripe. Formanek v. United States, 18 Cl. Ct. 785 (as amended Nov. 20, 1989).

5. Due Process/Taking Overlap: One method of takings analysis which had fallen increasingly into

disfavor is the harm/benefit distinction, in which a court would determine whether the primary purpose of a regulation was to prevent a harm to the public or to provide the public with a benefit. Many courts have noted the difficulty in differentiating between the situation where a government action confers a benefit on the public and where it prevents public harm, and have instead relied on the three factor test described above. See e.g., Loveladies Harbor, Inc. v. United States, 15 Cl. Ct. 381, 389 (1988). A recent Washington Supreme Court case, however, has returned to the harm/benefit distinction as a threshold inquiry, effectively screening cases out of "takings" analysis and applying a due process analysis instead.

- In Presbytery of Seattle v. King County, 114 Wash. 2d 320, 787 P.2d 907 cert. denied, 111 S. Ct. 284 (1990), the government action at issue was not a Section 404 permit denial, but rather the passage of a county wetlands protection ordinance. In 1978 claimant had acquired 4.5 acres of property, approximately one third of which was a high quality old growth cedar bog, for the construction of a church and parking lot. The county ordinance prevented destruction of the wetland, and the remaining acreage was insufficient to construct the church.

- The claimant argued that application for a development permit, which the county would clearly be prohibited from issuing by the ordinance, was not required in order to reach its taking claim. The court ultimately affirmed the lower court's decision to dismiss the case for failure to exhaust administrative remedies by actually applying for the development permit.

- The court noted that if a regulation does not infringe upon a fundamental attribute of ownership, and if it protects the public from harm to its health, safety, environment, or fiscal integrity, then no constitutional "taking" requiring just compensation exists. If the regulation protects the public from harm, the court held that the appropriate analysis is a due process test of "reasonableness" for which the only remedy is invalidation, not compensation.

- The court noted that the only time a court should reach the three factor takings analysis described above is when the regulation interferes with a fundamental right of ownership, such as the rights to possess, exclude others, and dispose of property, or when the regulation confers a public benefit by enhancing a publicly owned right in property.
- According to the court, the appropriate parcel to address in this case was the entire 4.5 acres. However, because the zoning ordinance in question affected the entire property, the situation may be distinguishable from the circumstance when a Section 404 permit application applies only to wetland acreage and other affected acreage.

E. Enforcement

1. Criminal Enforcement

a. Statutory Standard: 33 U.S.C. § 1319(c)

The Clean Water Act provides for criminal fines and prison terms for negligent and knowing violations of the Act.

1) Negligent Violations: fines range from $2,500 to $25,000 per day of violation; imprisonment of not more than 1 year. Fines and prison terms can be doubled for second and subsequent convictions.

2) Knowing Violations: fines range from $5,000 to $50,000 per day of violation; imprisonment of not more than 3 years. Fines of $100,000 per day may be imposed for second and subsequent convictions, and prison terms up to six years.

b. Examples

1) A Wall Street commodities trader was sentenced to 18 months' probation and

fined $2 million for negligently filling in more than 86 acres of wetlands on the eastern shore of Maryland, and then repeatedly ignoring warnings and orders from the Army Corps of Engineers. U.S. v. Jones, No. 90-216 (D. Md. May 25, 1990); see The Washington Post, May 26, 1990, p. A1.

2) The Third Circuit upheld a three year prison term and $202,000 fine for a Pennsylvania truck mechanic who filled a 14 acre lot despite numerous warnings and cease-and-desist orders. U.S. v. Pozsgai, 897 F.2d 524 (3d Cir. 1990), cert. denied, 111 S. Ct. 48 (1990); see also The Washington Post, January 16, 1990, p. A2.

2. Civil Enforcement

a. Enforcement MOA

The Corps and EPA signed a Memorandum of Agreement concerning Section 404 enforcement on January 19, 1989. Under the agreement, the Corps will usually be the lead enforcement agency for all violations of Corps-issued permits and for unpermitted discharges. EPA will take the lead for unpermitted discharges that involve repeat violators, flagrant violations and in certain other cases. After-the-fact permit applications will not be processed until after a mitigation plan has been agreed upon.

b. Administrative Enforcement

1) Penalty Proceedings Under 33 U.S.C. § 1319(g): In 1987, the Clean Water Act was amended to authorize both the EPA and the Secretary of the Army to assess Class I and Class II civil penalties for violations of the Act.

(a) Amount of Penalty: Class I penalties may be assessed in amounts up to $25,000 after an opportunity for an informal hearing. Class II penalties may be assessed up to $125,000, after an opportunity for a formal hearing before an administrative law judge, with appeal to the Administrator.

(b) Determining the Amount of Class I and Class II Civil Penalties: 33 U.S.C. § 1319(g)(3)

Factors to be taken into account include the nature, circumstance, and gravity of the violation, as well as the violator's ability to pay, prior conduct, degree of culpability, and economic benefit to society, if any.

2) Compliance Orders Under § 309(a)

(a) Statutory Standard: 33 U.S.C. § 1319(a)

(i) Procedure: In the case of alleged unauthorized fills, the statute authorizes EPA to issue a compliance order or file a suit for enforcement against the violator. Accused violators are given no opportunity to challenge the validity of the order, and, EPA is only authorized to give time extensions to anyone who has made a good faith commitment towards compliance.

(ii) Penalty: Penalties for noncompliance with a Section 309(a) order include permanent or temporary injunctions, fines ranging from $2,500 to $25,000 per day of violation, and/or imprisonment of one year. Repeated offenses can warrant the imposition of a fine of $50,000 per day of violation, or imprisonment of two years, or both.

(b) Judicial Review of Compliance Orders

Query: If a person receives an Order he or she believes to be invalid, what is the remedy?

The statute does not provide for any administrative appeal of the Order, and the federal government has taken the position, and two circuit courts have agreed, that the order is not reviewable by the courts except in a suit for judicial enforcement of the order initiated by the federal government. See Hoffman Group, Inc. v. EPA, 902 F.2d 567 (7th Cir. 1990); Southern Pines Assoc. v. EPA, 912 F.2d 713 (4th Cir. 1990). Yet penalties accrue at the rate of $25,000 per day for each day of noncompliance. The practical result is to coerce compliance even with orders that the respondent believes to be unlawful because the penalties for noncompliance are potentially ruinous.

Due Process implications of withholding review: Ex Parte Young, 209 U.S. 123 (1908) established the fundamental principle that a person has a basic due process right to challenge the validity of a law affecting his affairs, without being forced to suffer extreme penalties if his challenge proves unsuccessful. This fundamental principle has been reviewed in the context of CERCLA compliance order provisions under 42 U.S.C. § 9606. Courts have held that the CERCLA provisions precluding judicial review of such orders do not violate due process because CERCLA's "without sufficient cause" language allows an accused violator who believes in good faith that the order is invalid to refuse to comply with the order without incurring penalties. 42 U.S.C. § 9606(b) (providing that any person who, "without sufficient cause," willfully violates, fails, or refuses to comply with any order of the President may be fined $25,000 per day of violation); see also Solid State Circuits, Inc. v. U.S. E.P.A., 812 F.2d 383 (8th Cir. 1987); U.S. v. Reilly Tar & Chemical, 606 F. Supp. 412, 418 (D. Minn. 1985).

However, the compliance order provisions of the Clean Water Act under 33 U.S.C. § 1319(a) do not provide such a good-faith defense. Moreover, though the penalties for noncompliance run from the date the order is issued, the Hoffman court held that the Clean Water Act precludes review of these orders. Hoffman Group, Inc. v. EPA, 902 F.2d 567 (7th Cir. 1990). Thus, it would appear that the compliance order provisions of the Clean Water Act, insofar as they preclude judicial review of such orders, are an unconstitutional denial of due process.

3) Cease-and-Desist Orders: The Corps also issues cease and desist orders to halt alleged violations. In Fiscella &

Fiscella v. U.S., 717 F. Supp. 1143 (E.D. Va. 1989), the court held that cease and desist orders are not reviewable. However, other courts have held that such orders are reviewable. See, e.g., Swanson v. United States, 600 F. Supp 802 (D. Idaho 1985), aff'd 789 F.2d 1368 (9th Cir. 1986).

c) Judicial Enforcement: Section 309(b) of the Clean Water Act authorizes the EPA to bring a civil action for any violation for which EPA is authorized to issue a compliance order and to seek penalties or other remedies allowed by the statute.

1) Right to Jury Trial: In Tull v. U.S., 481 U.S. 412 (1987), the Supreme Court held that a civil defendant in a Section 404 enforcement action is entitled to a jury trial on the question of liability. Penalties, however, may be assessed by the court without a jury.

2) Example: In U.S. v. Sumitomo Construction, Co., Ltd., No. 90-00030 (D. Guam May 22, 1990), Sumitomo entered into a consent decree resolving its unpermitted filling of 5.2 acres of wetlands in Guam as part of the construction of a 1,300 acre golf and hotel mega-resort. The consent decree requires Sumitomo to pay $1.3 million in civil penalties, to restore 4.2 acres of the wetlands filled, and to create two additional acres of wetlands for each acre filled. Sumitomo also volunteered to contribute $200,000 to two wetlands funds in Guam.

3. Citizens Enforcement

a. Statutory Standard: 33 U.S.C. § 1365(a)

Section 505 of the Clean Water Act authorizes any citizen to bring a civil action on his own behalf against any person, including the United States or any governmental agency, whose violations of the Act may adversely affect the citizen's interests. However, before any action may be commenced, 60 days' notice must be given to the EPA, to the state where the violation occurred, and to the accused violator. Such notice is not required if violations of toxic pollutant regulations or federal standards of performance for new sources have occurred.

b. Attorney's Fees for Citizen's Suits

In National Wildlife Federation v. Hanson, 18 Envtl. L. Rep. 20,008 (E.D.N.C. Oct. 1, 1987), the court ordered the Corps and EPA to pay more than $400,000 in attorney's fees and costs to environmental groups that prevailed in a lawsuit holding that the Corps acted arbitrarily in determining that certain lands were not wetlands within Section 404 and that EPA failed to exercise its Section 404(c) authority to take corrective action. The court explicitly did not reach the question whether private defendants could be required to pay plaintiffs' attorney's fees. Instead, the court held that it would be unfair to require the private defendants to pay attorney's fees since their activities were carried out with the express approval of the Corps and since the Corps was a party and available to pay the attorneys' fees. The decision was affirmed on appeal. NWF v. Hanson, 859 F.2d 313 (4th Cir. 1988).

4. Anticipated EPA/Corps Action

In a recent Regulatory Guidance Letter (No. 90-9, Dec. 17, 1990), EPA and the Corps announced a joint Wetlands Enforcement Initiative. The initiative will be undertaken in two phases and will include major case filings and a major press release and press conference. The target date for the first phase is April 1991, and October 1991 for the second phase.

The Initiative will include cases involving both unpermitted discharges and discharges in violation of 404 permit conditions. The Initiative will consist of cease and desist orders, administrative compliance orders, administrative penalty actions and civil judicial referrals, as well as criminal referrals where appropriate.

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Memorandum of Agreement between the Department of the Army and the Environmental Protection Agency Concerning the Determination of the Geographic Jurisdiction of the Section 404 Program and the Application of the Exemptions under Section 404(f) of the Clean Water Act

I. PURPOSE AND SCOPE

The United States Department of the Army (Army) and the United States Environmental Protection Agency (EPA) hereby establish the policy and procedures pursuant to which they will determine the geographic jurisdictional scope of waters of the United States for purposes of section 404 and the application of the exemptions under section 404(f) of the Clean Water Act (CWA).

The Attorney General of the United States issued an opinion on September 5, 1979, that the Administrator of EPA (Administrator) has the ultimate authority under the CWA to determine the geographic jurisdictional scope of section 404 waters of the United States and the application of the section 404(f) exemptions. Pursuant to this authority and for purposes and effective administration of the 404 program, this Memorandum of Agreement (MOA) sets forth an appropriate allocation of responsibilities between the EPA and the U.S. Army Corps of Engineers (Corps) to determine geographic jurisdiction of the section 404 program and the applicability of the exemptions under section 404(f) of the CWA.

II. POLICY

It shall be the policy of the Army and EPA for the Corps to continue to perform the majority of the geographic jurisdictional determinations and determinations of the applicability of the exemptions under section 404(f) as part of the Corps role in administering the section 404 regulatory program. It shall also be the policy of the Army and EPA that the Corps shall fully implement EPA guidance on determining the geographic extent of section 404 jurisdiction and applicability of the 404(f) exemptions.

Case-specific determinations made pursuant to the terms of this MOA will be binding on the Government and represent the Government's position in any subsequent Federal action or litigation regarding the case. In making its determinations, the Corps will implement and adhere to the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands," EPA guidance on isolated waters, and other guidance, interpretations, and regulations issued by EPA to clarify EPA positions on geographic jurisdiction and exemptions. All future programmatic guidance, interpretations, and regulations on geographic jurisdictions, and exemptions shall be developed by EPA with input from the Corps; however, EPA will be considered the lead agency and will make the final decision if the agencies disagree.

III. DEFINITIONS

A. Special Case. A special case is a circumstance where EPA makes the final determination of the geographic jurisdictional scope of waters of the United States for purposes of section 404.

Special cases may be designated in generic or project-specific situations where significant issues or technical difficulties are anticipated or exist, concerning the determination of the geographic jurisdictional scope of waters of the United States for purposes of section 404 and where clarifying guidance is or is likely to be needed. Generic special cases will be designated by easily identifiable political or geographic subdivisions such as township, county, parish, state, EPA region, or Corps division or district. EPA will ensure that generic special cases are marked on maps or some other clear format and provided to the appropriate District Engineer (DE).

B. Special 404(f) Matters. A special 404(f) matter is a circumstance where EPA makes the final determination of the applicability of exemptions under section 404(f) of the CWA.

A special 404(f) matter may be designated in generic or project-specific situations where significant issues or technical difficulties are anticipated or exist, concerning the applicability of exemptions under Section 404(f), and where clarifying guidance is, or is likely, to be needed. Generic special 404(f) matters will be designated by easily identifiable political or geographic subdivisions such as township, county, parish, state, EPA region, or Corps division or district and by specific 404(f) exemption (e.g., 404(f)(1)(A)).

IV. PROCEDURES

A. Regional Lists. Each regional administrator (RA) shall maintain a regional list of current designated special cases and special 404(f) matters within each region, including documentation, if appropriate, that there are no current designated special cases or special 404(f) matters in the region. The RA shall create an initial regional list and transmit it to the appropriate DE within 30 days of the date of the last signature on this MOA. In order to be eligible for a regional list, the designated special cases and special 404(f) matter must be approved by the Administrator. (NOTE: Those geographic areas designated as current special cases pursuant to the 1980 Memorandum of Understanding on Geographic Jurisdiction of the Section 404 Program, may be incorporated into the initial regional lists without additional approval by the Administrator based on township, county, parish, state or other appropriate designation, as described in paragraph III. A. of this MOA but will no longer be designated by forest cover type.)

B. Changes to the Regional Lists. Changes to the regional lists shall be proposed by the RA and approved by the Administrator and may include additions to, amendments to, or deletions from the regional lists. When the RA proposes an addition, amendment, or deletion to the regional list, the RA shall forward the proposal to EPA Headquarters for review and approval. When the RA proposes an addition or amendment in writing or by phone to the appropriate Corps DE, the Corps will not make a final geographic jurisdictional determination within the proposed special case area for a period of ten working days from the date of the RA's notification. The Corps may proceed to make determinations in the proposed special case area after the ten day period if it has not been provided final notification of EPA Headquarters approval of the RA's proposed changes. Deletions to the regional list do not become effective until a revised regional list, approved by EPA Headquarters, is provided to the appropriate DE.

C. Project Reviews. The DE shall review section 404 preapplication inquiries, permit applications, and other matters brought to his attention, which involve the discharge of dredged or fill material into waters of the United States to determine if a current designated special case or special 404(f) matter is involved.

(1) Special Cases/Special 404(f) Matters.

For those projects involving a current designated special case or special 404(f) matter, the DE shall request that the RA make the final determination of the geographic jurisdictional scope of waters of the United States for purposes of section 404 or applicability of the exemptions under section 404(f). The RA shall make the final determination, subject to discretionary review by EPA Headquarters, and transmit it to the DE, and to the applicant/inquirer.

(2) Non-Special Cases/Non-Special 404(f) Matters.

For those projects not involving a current designated special case or special 404(f) matter, the DE shall make final determinations and communicate those determinations without a requirement for prior consultation with EPA.

D. Determination of Special Cases or Special 404(f) Matters. When the special case or special 404(f) matter has been designated on a project-specific basis, issuance of the final determination by the RA will serve as guidance relevant to the specific facts of each particular situation, and will terminate the special case or special 404(f) matter designation. When the special case or special 404(f) matter has been designated on a generic basis, EPA Headquarters will develop, in consultation with Army, relevant programmatic guidance for determining the geographic jurisdictional scope of waters of the United States for the purpose of section 404 or the applicability of exemptions under section 404(f). Special cases and special 404(f) matters designated on a generic basis remain in effect until (1) a deletion from the regional list is proposed and processed according to paragraph IV-B of this MOA, or (2) EPA Headquarters issues programmatic guidance that addresses the relevant issues and specifically deletes the special case or special 404(f) matter from the regional list(s), whichever occurs first.

E. Uncertainties Regarding Special Cases/Special 404(f) Matters. Should any uncertainties arise in determining whether a particular action involves a current designated special case or special 404(f) matter, the DE shall consult with the RA. Upon completion of the consultation, the RA will make the final determination as to whether the action involves a current designated special case or special 404(f) matter.

F. Compliance Tracking. In order to track the DE's compliance with EPA guidance, the DE shall make his files available for inspection by the RA at the district office, including field notes and data sheets utilized in making final determinations as well as any photographs of the site that may be available. Copies of final geographic jurisdictional determinations will be provided to the RA upon request at no cost to EPA unless the sample size exceeds 10 percent of the number of determinations for the sample period. Copies in excess of a 10 percent sample will be provided at EPA expense. To ensure that EPA is aware of determinations being made for which notification is not forwarded through the public notice process, the Corps will provide copies to EPA of all final determinations of no geographic jurisdiction and all final determinations that an exemption under Section 404(f) is applicable. Should EPA become aware of any problem trends with the DE's implementation of guidance, EPA shall initiate interagency discussions to address the issue.

V. RELATED ACTIONS

A. Enforcement Situations. For those investigations made pursuant to the 1989 Enforcement MOA between Army and EPA concerning Federal enforcement of section 404 of the CWA, which involve areas that are current designated special cases, the RA shall make the final determination of the geographic jurisdictional scope of waters of the United States for purposes of section 404. The RA's determination is subject to discretionary review by EPA Headquarters, and will be binding regardless of which agency is subsequently designated lead enforcement agency pursuant to the 1989 Enforcement MOA. For those investigations not involving special cases, the agencies will proceed in accordance with the provisions of the 1989 Enforcement MOA.

For those investigations made pursuant to the 1989 Enforcement MOA between Army and EPA concerning Federal enforcement of section 404 of the CWA, which involve current designated special 404(f) matters, the RA shall make the final determination of the applicability of the exemptions under section 404(f). The RA determination is subject to discretionary review by EPA Headquarters, and is binding regardless of which agency is subsequently designated lead enforcement agency pursuant to the 1989 Enforcement MOA. For those investigations not involving special 404(f) matters, the agencies will proceed in accordance with the provisions of the 1989 Enforcement MOA.

B. Advanced Identification. EPA may elect to make the final determination of the geographic jurisdictional scope of waters of the United States for purposes of section 404, as part of the advanced identification of disposal sites under 40 CFR 230.80, subject to discretionary review by EPA Headquarters, and regardless of whether the areas involved are current designated special cases, unless the DE has already made a final geographic jurisdictional determination. Any determinations under this section shall be completed in accordance with paragraph IV of this MOA.

C. 404(c) Actions. EPA may elect to make the final determination of the geographic jurisdictional scope of waters of the United States for purposes of section 404(c) of the CWA.

VI. GENERAL PROVISIONS

A. All final determinations must be in writing and signed by either the DE or RA. Final determination of the DE or RA made pursuant to this MOA or the 1980 Memorandum of Understanding on Geographic Jurisdiction of the Section 404 Program, will be binding on the Governmant and represent the Government's position in any subsequent Federal action or litigation concerning that final determination.

B. The procedures and responsibilities of each agency specified in this MOA may be delegated to appropriate subordinates consistent with established agency procedure. Headquarters procedures and responsibilities specified in the MOA may only be delegated within headquarters.

C. Nothing in this document is intended to diminish, modify, or otherwise affect the statutory or regulatory authorities of either agency.

D. This agreement shall take effect and supercede the April 23, 1980, Memorandum of Understanding on Geographic Jurisdiction of the Section 404 Program on the 60th day after the date of the last signature below and will continue in effect for five years, unless extended, modified or revoked by agreement of both parties, or revoked by either party alone upon six months written notice, prior to that time.

(signed)
Robert W. Page
Assistant Secretary of
the Army (Civil Works)

January 19, 1989
Date

(signed)
Rebecca W. Hanmer
Acting Assistant Administrator
for Water
U.S. Environmental Protection
Agency

January 19, 1989
Date

Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation under the Clean Water Act Section 404(b)(1) Guidelines

I. PURPOSE

The United States Environmental Protection Agency (EPA) and the United States Department of the Army (Army) hereby articulate the policy and procedures to be used in the determination of the type and level of mitigation necessary to demonstrate compliance with the Clean Water Act (CWA) Section 404(b)(1) Guidelines ("Guidelines"). This Memorandum of Agreement (MOA) expresses the explicit intent of the Army and EPA to implement the objective of the CWA to restore and maintain the chemical, physical, and biological integrity of the Nation's waters, including wetlands. This MOA is specifically limited to the Section 404 Regulatory Program and is written to provide guidance for agency field personnel on the type and level of mitigation which demonstrates compliance with requirements in the Guidelines. The policies and procedures discussed herein are consistent with current Section 404 regulatory practices and are provided in response to questions that have been raised about how the Guidelines are implemented. The MOA does not change the substantive requirements of the Guidelines. It is intended to provide guidance regarding the exercise of discretion under the Guidelines.

Although the Guidelines are clearly applicable to all discharges of dredged or fill material, including general permits and Corps of Engineers (Corps) civil works projects, this MOA focuses on standard permits (33 CFR 325.5(b)(1)).[1] This focus is intended solely to reflect the unique procedural aspects associated with the review of standard permits, and does not obviate the need for other regulated activities to comply fully with the Guidelines. EPA and Army will seek to develop supplemental guidance for other regulated activities consistent with the policies and principles established in this document.

This MOA provides guidance to Corps and EPA personnel for implementing the Guidelines and must be adhered to when considering mitigation requirements for standard permit applications. The Corps will use this MOA when making its determination of compliance with the Guidelines with respect to mitigation for standard permit applications. EPA will use this MOA in developing its positions on compliance with the Guidelines for proposed discharges and will reflect this MOA when commenting on standard permit applications.

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[1] Standard permits are those individual permits which have been processed through application of the Corps public interest review procedures (33 CFR 325) and EPA's Section 404(b)(1) Guidelines, including public notice and receipt of comments. Standard permits do not include letters of permission, regional permits, nationwide permits, or programmatic permits.

II. POLICY

A. The Council on Environmental Quality (CEQ) has defined mitigation in its regulations at 40 CFR 1508.20 to include: avoiding impacts, minimizing impacts, rectifying impacts, reducing impacts over time, and compensating for impacts. The Guidelines establish environmental criteria which must be met for activities to be permitted under Section 404.[2] The types of mitigation enumerated by CEQ are compatible with the requirements of the Guidelines; however, as a practical matter, they can be combined to form three general types: avoidance, minimization and compensatory mitigation. The remainder of this MOA will speak in terms of these more general types of mitigation.

B. The Clean Water Act and the Guidelines set forth a goal of restoring and maintaining existing aquatic resources. The Corps will strive to avoid adverse impacts and offset unavoidable adverse impacts to existing aquatic resources, and for wetlands, will strive to achieve a goal of no overall net loss of values and functions. In focusing the goal of no overall net loss to wetlands only, EPA and Army and have explicitly recognized the special significance of the nation's wetlands resources. This special recognition of wetlands resources does not in any manner diminish the value of other waters of the United States, which are often of high value. All waters of the Unites States, such as streams, rivers, lakes, etc., will be accorded the full measure of protection under the Guidelines, including the requirements for appropriate and practicable mitigation. The determination of what level of mitigation constitutes "appropriate" mitigation is based solely on the values and functions of the aquatic resource that will be impacted. "Practicable" is defined at Section 230.3(q) of the Guidelines.[3] However, the level of mitigation determined to be appropriate and practicable under Section 230.10(d) may lead to individual permit decisions which do not fully meet this goal because the mitigation measures necessary to meet this goal are not feasible, not practicable, or would accomplish only inconsequential reductions in impacts. Consequently, it is recognized that no net loss of wetlands functions and values may not be achieved in each and every permit action. However, it remains a goal of the Section 404 regulatory program to contribute to the national goal of no overall net loss of the nation's remaining wetlands base. EPA and Army are committed to working with others through the Administration's interagency task force and other avenues to help achieve this national goal.

C. In evaluating standard Section 404 permit applications, as a practical matter, information on all facets of a project, including potential mitigation, is typically gathered and reviewed at the same time. The Corps, except as indicated below, first makes a determination that potential impacts have been avoided to the maximum extent practicable; remaining unavoidable impacts will then be mitigated to the extent appropriate and practicable by requiring steps to minimize impacts and, finally, compensate for aquatic resource values. This sequence is considered satisfied where the proposed mitigation is in accordance with specific provisions of a Corps and EPA approved comprehensive plan that ensures compliance with the compensation requirements of the Section 404(b)(1) Guidelines (examples of such comprehensive plans may include Special Area Management Plans, Advance Identification areas (Section 230.80), and State Coastal Zone Management Plans). It may be appropriate to deviate from the sequence when EPA and the Corps agree the proposed discharge is necessary to avoid environmental harm (e.g., to protect a natural aquatic community from saltwater intrusion, chemical contamination, or other deleterious physical or chemical impacts), or EPA and the Corps agree that the proposed discharge can reasonably be expected to result in environmental gain or insignificant environmental losses.

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[2] (except where Section 404(b)(2) applies).

[3] Section 230.3(q) of the Guidelines reads as follows: "The term practicable means available and capable of being done after taking into consideration *cost, existing technology, and logistics in light of overall project purposes.*" (Emphasis supplied).

In determining "appropriate and practicable" measures to offset unavoidable impacts, such measures should be appropriate to the scope and degree of those impacts and practicable in terms of cost, existing technology, and logistics in light of overall project purposes. The Corps will give full consideration to the views of the resource agencies when making this determination.

1. Avoidance.[4] Section 230.10(a) allows permit issuance for only the least environmentally damaging practicable alternative.[5] The thrust of this section on alternatives is avoidance of impacts. Section 230.10(a) requires that no discharge shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact to the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. In addition, Section 230.10(a)(3) sets forth rebuttable presumptions that 1) alternatives for non-water dependent activities that do not involve special aquatic sites[6] are available and 2) alternatives that do not involve special aquatic sites have less adverse impact on the aquatic environment. Compensatory mitigation may not be used as a method to reduce environmental impacts in the evaluation of the least environmentally damaging practicable alternatives for the purposes of requirements under Section 230.10(a).

2. Minimization. Section 230.10(d) states that appropriate and practicable steps to minimize the adverse impacts will be required through project modifications and permit conditions. Subpart H of the Guidelines describes several (but not all) means for minimizing impacts of an activity.

3. Compensatory Mitigation. Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain after all appropriate and practicable minimization has been required. Compensatory actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands) should be undertaken, when practicable, in areas adjacent or contiguous to the discharge site (on-site compensatory mitigation). If on-site compensatory mitigation is not practicable, off-site compensatory mitigation should be undertaken in the same geographic area, if practicable (i.e., in close physical proximity and, to the extent possible, the same watershed). In determining compensatory mitigation, the functional values lost by the resource to be impacted must be considered. Generally, in-kind compensatory mitigation is preferable to out-of-kind. There is continued uncertainty regarding the success of wetland creation or other habitat development. Therefore, in determining nature and extent of habitat development of this type, careful consideration should be given to its likelihood of success. Because the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, restoration should be the first option considered.

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[4] Avoidance as used in the Section 404(b)(1) Guidelines and this MOA does not include compensatory mitigation.

[5] It is important to recognize that there are circumstances where the impacts of the project are so significant that even if alternatives are not available, the discharge may not be permitted regardless of the compensatory mitigation proposed (40 CFR 230.10(c)).

[6] Special aquatic sites include sanctuaries and refuges, wetlands, mud flats, vegetated shallows, coral reefs and riffle pool complexes.

In the situation where the Corps is evaluating a project where a permit issued by another agency requires compensatory mitigation, the Corps may consider that mitigation as part of the overall application for purposes of public notice, but avoidance and minimization shall still be sought.

Mitigation banking may be an acceptable form of compensatory mitigation under specific criteria designed to ensure an environmentally successful bank. Where a mitigation bank has been approved by EPA and the Corps for purposes of providing compensatory mitigation for specific identified projects, use of that mitigation bank for those particular projects is considered as meeting the objectives of Section II.C.3 of this MOA, regardless of the practicability of other forms of compensatory mitigation. Additional guidance on mitigation banking will be provided. Simple purchase or "preservation" of existing wetlands resources may in only exceptional circumstances be accepted as compensatory mitigation. EPA and Army will develop specific guidance for preservation in the context of compensatory mitigation at a later date.

III. OTHER PROCEDURES

A. Potential applicants for major projects should be encouraged to arrange preapplication meetings with the Corps and appropriate federal, state or Indian tribal, and local authorities to determine requirements and documentation required for proposed permit evaluations. As a result of such meetings, the applicant often revises a proposal to avoid or minimize adverse impacts after developing an understanding of the Guidelines requirements by which a future Section 404 permit decision will be made, in addition to gaining an understanding of other state or tribal, or local requirements. Compliance with other statutes, requirements and reviews, such as NEPA and the Corps public interest review, may not in and of themselves satisfy the requirements prescribed in the Guidelines.

B. In achieving the goals of the CWA, the Corps will strive to avoid adverse impacts and offset unavoidable adverse impacts to existing aquatic resources. Measures which can accomplish this can be identified only through resource assessments tailored to the site performed by qualified professionals because ecological characteristics of each aquatic site are unique. Functional values should be assessed by applying aquatic site assessment techniques generally recognized by experts in the field and/or the best professional judgment of federal and state agency representatives, provided such assessments fully consider ecological functions included in the Guidelines. The objective of mitigation for unavoidable impacts is to offset environmental losses. Additionally for wetlands, such mitigation should provide, at a minimum, one for one functional replacement (i.e., no net loss of values), with an adequate margin of safety to reflect the expected degree of success associated with the mitigation plan, recognizing that this minimum requirement may not be appropriate and practicable, and thus may not be relevant in all cases, as discussed in Section II.B of this MOA.[7] In the absence of more definitive information on the functions and values of specific wetlands sites, a minimum of 1 to 1 acreage replacement may be used as a reasonable surrogate for no net loss of functions and values. However, this ratio may be greater where the functional values of the area being impacted are demonstrably high and the replacement wetlands are of lower functional value or the likelihood of success of the mitigation project is low. Conversely, the ratio may be less than 1 to 1 for areas where the functional values associated with the area being impacted are demonstrably low and the likelihood of success associated with the mitigation proposal is high.

C. The Guidelines are the environmental standard for Section 404 permit issuance under the CWA. Aspects of a proposed project may be affected through a determination of requirements needed to comply with the Guidelines to achieve these CWA environmental goals.

D. Monitoring is an important aspect of mitigation, especially in areas of scientific uncertainty. Monitoring should be directed toward determining whether permit conditions are complied with and whether the purpose intended to be served by the condition is actually achieved. Any time it is determined that a permittee is in non-compliance with mitigation requirements of the permit, the Corps will take action in accordance with 33 CFR Part 326. Monitoring should not be required for purposes other than these, although information for other uses may accrue from the monitoring requirements. For projects to be permitted involving mitigation with higher levels of scientific uncertainty, such as some forms of compensatory mitigation, long term monitoring, reporting and potential remedial action should be required. This can be required of the applicant through permit conditions.

E. Mitigation requirements shall be conditions of standard Section 404 permits. Army regulations authorize mitigation requirements to be added as special conditions to an Army permit to satisfy legal requirements (e.g., conditions necessary to satisfy the Guidelines) [33 CFR 325.4(a)]. This ensures legal enforceability of the mitigation conditions and enhances the level of compliance. If the mitigation plan necessary to ensure compliance with the Guidelines is not reasonably implementable or enforceable, the permit shall be denied.

F. Nothing in this document is intended to diminish, modify or otherwise affect the statutory or regulatory authorities of the agencies involved. Furthermore, formal policy guidance on or interpretation of this document shall be issued jointly.

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[7] For example, there are certain areas where, due to hydrological conditions, the technology for restoration or creation of wetlands may not be available at present, or may otherwise be impracticable. In addition, avoidance, minimization, and compensatory mitigation may not be practicable where there is a high proportion of land which is wetlands. EPA and Army, at present, are discussing with representatives of the oil industry, the potential for a program of accelerated rehabilitation of abandoned oil facilities on the North Slope to serve as a vehicle for satisfying necessary compensation requirements.

G. This MOA shall take effect on February 7, 1990, and will apply to those completed standard permit applications which are received on or after that date. This MOA may be modified or revoked by agreement of both parties, or revoked by either party alone upon six (6) months written notice.

(signed) Feb. 6, 1990
Robert W. Page (Date)
Assistant Secretary of the Army
(Civil Works)

(signed) Feb. 6, 1990
LaJuana S. Wilcher (Date)
Assistant Administrator for
Water
U.S. Environmental Protection
Agency

No. 85-4 Date 29 Mar 85 Expires 31 Dec 87
DAEN-CWO-N
Subject:
Avoyelles

1. This guidance interprets a Fifth Circuit Court of Appeals decision regarding 404 jurisdiction over land clearing activities.

2. Except as provided for in paragraphs 4-6 below, the general rule from the Fifth Circuit's decision in *Avoyelles Sportsmen's League v. Marsh*, 715 F.2d 897 (5th Cir. 1983), to be implemented nationwide, is the following. *Cutting, windrowing, or other landclearing activities* with mechanized equipment such as backhoes or bulldozers with sheer blades, rakes, or discs constitute point source discharges which must be authorized by a Corps individual or general permit *if*:

a. the activity takes place in a water of the United States; *and*
b. the activity would involve burying logs or burying burn residue, or totally or partially filling in sloughs or low areas, or leveling the land; *and*
c. the activity is not exempted from Section 404 requirements by Section 404(f) or Section 404(r).

In addition, the side casting of material into waters of the United States from the construction of ditches requires a 404 permit unless exempted by Section 404(f) or Section 404(r).

3. Even if a landowner asserts that any filling, leveling, or burying would be merely incidental to his proposed landclearing, the district commander may still determine that those activities will be regulated under Section 404. Therefore, for the purpose of determining whether material moved, deposited, or redeposited during landclearing operations is "fill material" under 33 CFR 323.2(k), the primary purpose of any such proposed activity will be determined by the district commander through his independent evaluation of the proposal. If the district commander determines that an activity is designed to replace aquatic areas with dry land or to raise the bottom elevation of a waterbody, then that activity will be understood to meet the primary purpose test.

4. The Fifth Circuit did not decide whether *de minimis* discharges of dredged or fill material are exempt from the permit requirement. The activities in the *Avoyelles* case did not involve a *de minimis* discharge because sufficient quantities of fill material were discharged to totally or partially fill in sloughs or level the land. Therefore, the court's decision does not alter the current Corps policy stating that permits are not required for *de minimis* discharges (see RGL 84-1). Each landclearing operation in a water of the United States should be evaluated to determine if more than *de minimis* discharges would take place; if so, a permit would be required.

5. The court did not decide whether the mere removal of vegetation from the land constitutes a discharge, nor did it decide whether removal of vegetation from the surface or subsurface (grubbing) is dredging. Therefore, the court's decision does not change the Corps policy that a permit is not required for the mere removal of vegetation from the land.

6. The felling of a tree in a water of the United States is not a 404 discharge. Piling of trees, brush and stumps with *de minimis* amounts of soil attached to the roots or gathered in the piling operation is not necessarily a 404

discharge unless it would totally or partially fill in sloughs or level the land. Filling stump holes is normally a *de minimis* discharge because of the *de minimis* nature of the incidental soil movement. Discing, plowing, or raking of the soil surface is not necessarily a 404 discharge (see last sentence of 33 CFR 323.2(j) and (1)) unless it would totally or partially fill in sloughs or level the land to more than a *de minimis* degree.
For The Chief Of Engineers:

C.E. Edgar III
Brigadier General, USA
Deputy Director of Civil Works

No. 86-9 Date 27 Aug 86 Expires 31 Dec 88
DAEN-CWO-N
Subject:

Clarification of "Normal Circumstances" in the Wetland Definition (33 CFR 323.2(c))

1. This letter will serve to continue the guidance originally issued as RGL 82-2, regarding Corps policy on land-use conversion as it concerns regulatory jurisdiction. Specifically, the guidance addresses situations involving changes in the physical characteristics of a wetland which cause the area to lose or gain characteristics which would alter its status of "waters of the United States" for purposes of the Section 404 regulatory program.

2. The current definition of "waters of the United States" delineates "wetlands" as follows, at 33 CFR 323.2(c):

> The term "wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.

The regulations now in force cover the actual discharge of dredged or fill material into "wetlands," as they are a part of the "waters of the United States." However, these regulations do not discuss what effect the conversion of a wetland to other uses (e.g., agricultural) has upon regulatory jurisdiction, once the land-use conversion has been accomplished.

3. As was stated in RGL 82-2, it is our intent under Section 404 to regulate discharges of dredged or fill material into the aquatic system as it exists and not as it may have existed over a record period of time. The wetland definition is designed to achieve this intent. It pertains to an existing wetland and requires that the area be inundated or saturated by water at a frequency and duration sufficient to support aquatic vegetation. We do not intend to assert jurisdiction over those areas that once were wetlands and part of an aquatic system, but which, in the past, have been transformed into dry land for various purposes. Neither do we intend the definition of "wetlands" to be interpreted as extending to abnormal situations including non-aquatic areas that have aquatic vegetation. Thus, we have listed swamps, bogs, and marshes at the end of the definition at 323.2(c) to further clarify our intent to include only truly aquatic areas.

4. The use of the phrase "under normal circumstances" is meant to respond to those situations in which an individual would attempt to eliminate the permit review requirements of Section 404 by destroying the aquatic vegetation, and to those areas that are not aquatic but experience an abnormal presence of aquatic vegetation. Several instances of destruction of aquatic vegetation to eliminate Section 404 jurisdiction have actually occurred. Because those areas would still support aquatic vegetation "under normal circumstances," they remain a part of the overall aquatic system intended to be protected by the Section 404 program; therefore, 404 jurisdiction still exists. On the other hand, the abnormal presence of aquatic vegetation in a non-aquatic area would not be sufficient to include that area within the Section 404 program.

5. Many areas of wetlands converted in the past to other uses would, if left unattended for a sufficient period of time, revert to wetlands solely through the devices of nature. However, such *natural* circumstances are not what is meant by "*normal* circumstances" in the definition quoted above. "Normal circumstances" are determined on the basis of an area's characteristics and use, at present and in the recent past. Thus, if a former wetland has been converted to another use (other than by recent unpermitted action not subject to 404(f) or 404(r) exemptions) and that use alters its wetland characteristics to such an extent that it is no longer a "water of the United States," that area will no longer come under the Corps regulatory jurisdiction for purposes of Section 404. However, if the area is abandoned and over time regains wetland characteristics such that it meets the definition of "wetlands," then the Corps 404 jurisdiction has been restored.

6. This policy is applicable to Section 404 authority only, not to Section 10.

7. This guidance expires 31 December 1988 unless sooner revised or rescinded.

For The Chief Of Engineers:

Peter J. Offringa
Brigadier General, USA
Deputy Director of Civil Works

No. 88-11 Date 22 Aug 88 Expires 31 Dec 90
CECW-OR
Subject:
Mall Properties, Inc. v. Marsh

1. In the subject case, the court decided that the Corps had exceeded its authority by basing its denial on socioeconomic harms that the court believed were not "proximately-related" to the purpose of the Clean Water Act (CWA), i.e., changes in the physical environment. Specifically, the court found the Corps decision to deny a permit for a shopping mall in North Haven, Connecticut, which was based on the adverse effect the mall's economic competition would have on downtown New Haven, was too "attenuated" from the purpose of our statutory regulatory authority.

2. Because of past court decisions, we consider our authority under Section 10 of the Rivers and Harbors Act of 1899 to allow consideration of a broad range of public interest factors, including socioeconomic factors and have similarly applied this concept to permit decisions under Section 404 of the CWA. The court appeared to base its decision largely on our authority under Section 404, and did not appear to fully consider our Section 10 authority. We still believe that we should consider a broad range of public interest factors when making permit decisions under both authorities, but must be mindful of the relationship of those factors to the activity being regulated.

3. In the subject case, the court distinguished between socioeconomic impacts "proximately-related" to the permit action and those impacts which, despite this being the only remaining appropriate site in the market area, would occur whether the mall was located on upland or wetland. In other words, the adverse impacts on which the Corps based its denial, were, in the court's opinion, too "attenuated" from the purpose of the permit action under the Clean Water Act (i.e., to restore and maintain the chemical, physical and biological integrity of the aquatic environment) to have been weighed so heavily by the DE.

4. We do not think that this decision totally restrains our consideration of socioeconomic impacts. As mentioned above, the court did not seem to consider that our permit action also involved Section 10 authority. However, DEs should give less weight to impacts that are, at best, weakly related to the purpose of our permit action and statutory authority, and not let such impacts be the sole or most important basis for a permit denial.

5. The decision lends some guidance for the public interest review. That is, while all direct, indirect and cumulative impacts flowing from our permit action should be considered, it is important to give such impacts appropriate weight in your permit decision. More strongly related indirect impacts should be given heavy consideration, while more "attenuated" impacts should be considered, but less heavily. For example, the impacts of water withdrawals for hydroelectric power generation on downstream aquatic communities would be indirect effects of a permit for discharges associated with construction of such a facility. Spin-off development, such as small restaurants, stores and gas stations constructed to capture business from plant employees would similarly be an indirect effect. However, the latter would be likely to result from any business development in the vicinity, whether or not a DA

permit were required, and should thus be weighed less heavily than the former in permit decisions.

6. This guidance expires 31 December 1990 unless sooner revised or rescinded.

For the Chief of Engineers:

John P. Elmore
Chief, Operations and Readiness Division
Directorate of Civil Works

No. 88-13 Date 3 Nov 88 Expires 31 Dec 90
CECW-OR
Subject:
National Environmental Policy Act (NEPA) Scope of Analysis and Alternatives

1. On February 3, 1988, the Department of the Army issued new NEPA implementation regulations governing its regulatory responsibilities (33 CFR Parts 230 and 325). This revision concluded an effort begun four years earlier to clarify and streamline the NEPA procedures applied to the Army's regulatory program. When many years of discussion between the Army and EPA failed to resolve their differences, EPA referred the regulation to the Council on Environmental Quality (CEQ) pursuant to Section 309 of the Clean Air Act. The most prominent issues in that referral were what scope of analysis the district engineer should use when determining whether or not an environmental impact statement (EIS) should be prepared for regulatory actions and to what extent the district engineer should consider alternatives to those actions in the context of the scope of analysis.

2. The language of the new regulation is meant to assist district engineers in determining what part of a project they should consider when deciding whether or not to prepare an EIS, and what to evaluate within the EIS. This decision will also affect which impacts and alternatives must be evaluated. Under the new regulation, the district engineer is instructed to limit the scope of analysis to the specific activity requiring an Army regulatory permit and any additional portions of the entire project over which there is sufficient Federal control and responsibility to warrant NEPA review. This limiting of the scope of analysis recognizes that, notwithstanding the link between issuance of a permit and project construction, NEPA was not intended to apply to a purely non-Federal activity.

3. The balance struck by the new regulation is based on recent judicial rulings clarifying, for NEPA purposes, the limits of "Federal action" in a Federal regulatory permitting context. One of these judicial rulings, Winnebago Tribe of Nebraska v. Ray, involved a proposal by the Nebraska Public Power District to construct a 67-mile transmission line through portions of Iowa and Nebraska. The "major Federal action" at issue was the requirement for a permit under Section 10 of the Rivers and Harbors Appropriation Act of 1899 to authorize construction of the portion of the powerline crossing the Missouri River. The Corps decision to issue the permit without preparing an EIS was challenged because the Environmental Assessment (EA) was limited to the environmental impacts of portions of the powerline requiring a Section 10 permit, and did not address the remaining 65-miles of the powerline. On appeal to the Eighth Circuit, the Tribe argued that because the entire project could not be completed without the Missouri River crossing, and the river crossing could not be constructed without a Section 10 permit the Corps "wield[ed] sufficient control over the entire project to require project-wide environmental analysis." The Eighth Circuit rejected this argument and ruled that the portions of the transmission line that did not require a Section 10 permit were outside the scope of review for NEPA purposes.

4. In reaching its conclusion, the Eighth Circuit considered: (1) The degree of the Corps discretion over the entire project; (2) the amount, if any, of direct

Federal financial aid given to the project; and (3) whether "the overall Federal involvement with the project was sufficient to turn essentially private action into Federal action." Applying these factors, the court concluded that the Corps broad discretion under the Rivers and Harbors Act did not encompass areas outside the limit of Section 10 jurisdiction; that there was no direct or indirect Federal funding of the project; and that there was no Federal involvement in the portion of the project not within Section 10 jurisdiction that would federalize the essentially private activity.

5. These factors, in addition to the factors listed at paragraph 7(b) of Appendix B to 33 CFR Part 325, are offered to provide guidance on making determinations on whether the Government has sufficient control and responsibility for portions of the project beyond the limits of Corps jurisdiction so as to turn an essentially private action into a Federal action, thereby triggering the requirements of NEPA for the entire project. Paragraph 7 of Appendix B to 33 CFR Part 325 states that:

Typical factors to be considered in determining whether sufficient "control and responsibility" exists include:

(i) Whether or not the regulated activity comprises "merely a link" in a corridor type project (e.g., a transportation or utility transmission project).

(ii) Whether there are aspects of the upland facility in the immediate vicinity of the regulated activity which affect the location and configuration of the regulated activity.

(iii) The extent to which the entire project will be within Corps jurisdiction.

(iv) The extent of cumulative Federal control and responsibility.

6. Once the district engineer has determined the appropriate portion of the project to be evaluated (scope of action) the district engineer needs to consider alternatives to that action and evaluate impacts (primary, secondary and cumulative) in the appropriate NEPA analysis, such as the EA, EIS, and decision on whether to prepare a finding of no significant impact or to require an EIS. However, when analyzing secondary (indirect) impacts, the district engineer should consider the strength of the relationship between those impacts and the regulated portion of the activity (i.e., whether or not the impacts are likely to occur even if the permit is not issued) in deciding the level of analysis and what weight to give these impacts in the decision. These considerations are particularly relevant where the NEPA analysis is extended to areas outside Corps jurisdiction. In a parallel situation, the court in *Mall Properties, Inc. v. Marsh* faulted the district engineer for giving too much weight to socioeconomic impacts that were "attenuated" from the purpose of the statute authorizing ~~us to~~ take the permit action. The court distinguished between socioeconomic impacts "proximately-related" to the permit action, and those impacts which, even though this was the only site within the market area where a shopping mall could be built, were too far attenuated from the original purpose of the statute (i.e., impacts on the aquatic environment) to be heavily weighed in the Corps decision. (The socioeconomic impacts on downtown New Haven were the primary basis for denial of that permit. The court noted that these impacts would occur whether the mall were built in wetland or upland.)

7. The attenuation concept should also be applied to NEPA analysis. When considering what weight the impacts of a project, requiring a permit will be given in NEPA decisions, district engineers should consider whether

another project, not requiring a permit, could likely occur at the site or in the vicinity, and whether its impacts would be similar to impacts of the project requiring a permit.

8. Another issue arising from EPA's referral was the misconception that consideration of alternatives would always be restricted to those alternatives agreeable to the applicant. While the Corps should recognize the applicant's purpose and need, and evaluate those alternatives available to the applicant, that meet this purpose and need, it is sometimes necessary, under NEPA, to analyze alternatives beyond the applicants capability in order to make an informed public interest decision. Such alternatives should be included in the category of "deny the permit" where it is appropriate to examine whether the public benefits to be accrued from the applicant's project are likely to be provided elsewhere by another project, even if the permit is not issued. This is specifically stated in Appendix B, paragraph 9(c)(5). Though not specifically stated in paragraph 7, which describes how alternatives should be considered in the environmental assessment, the same basic guidance applies. District engineers should consider alternatives not available to the applicant when they need to know what opportunities will be lost to the public if they deny the permit.

9. This guidance expires 31 December 1990 unless sooner revised or rescinded.

For the Director of Civil Works:

John P. Elmore
Chief, Operations and Readiness Division
Directorate of Civil Works

US Army Corps
of Engineers
Office, Chief of Engineers

Regulatory Guidance Letter

No. 90-7 Date 26 SEP 90 Expires 31 DEC 93

CECW-OR

SUBJECT: Clarification of the Phrase "Normal Circumstances" as it pertains to Cropped Wetlands.

1. The purpose of this regulatory guidance letter (RGL) is to clarify the concept of "normal circumstances" as currently used in the Army Corps of Engineers definition of wetlands (33 CFR 328.3(b)), with respect to cropped wetlands.

2. Since 1977, the Corps and the Environmental Protection Agency (EPA) have defined wetlands as:

> "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions..." (33 CFR 328.3(b)) (emphasis added).

While "normal circumstances" has not been defined by regulation, the Corps previously provided guidance on this subject in two expired "normal circumstances" RGLs (RGLs 82-2 and 86-9). These RGLs did not specifically deal with the issue of wetland conversion for purpose of crop production.

3. When the Corps adopted the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (Manual) on 10 January 1989, the Corps chose to define "normal circumstances" in a manner consistent with the definition used by the Soil Conservation Service (SCS) in its administration of the Swampbuster provisions of the Food Security Act of 1985 (FSA). Both the SCS and the Manual interpret "normal circumstances" as the soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed [7 CFR 12.31(b)(2)(i)] [Manual page 71].

norm circ = soil & hydro regardless of veg. removed

1. Cropped/drained prior to 1985 & inund. 14 days or less – prior converted WL = norm. circ in cropland, ∴ lacking veg ∑ ., ∴ not WL subj to 404
2. Areas inund. > 15 days = jd.

4. The primary consideration in determining whether a disturbed area qualifies as a section 404 wetland under "normal circumstances" involves an evaluation of the extent and relative permanence of the physical alteration of wetlands hydrology and hydrophytic vegetation. In addition, consideration is given to the purpose and cause of the physical alterations to hydrology and vegetation. For example, we have always maintained that areas where individuals have destroyed hydrophytic vegetation in an attempt to eliminate the regulatory requirements of section 404 remain part of the overall aquatic system, and are subject to regulation under section 404. In such a case, where the Corps can determine or reasonably infer that the purpose of the physical disturbance to hydrophytic vegetation was to avoid regulation, the Corps will continue to assert section 404 jurisdiction.

5. The following guidance is provided regarding how the concept of "normal circumstances" applies to areas that are in agricultural crop production:

a. "Prior converted cropland" is defined by the SCS (Section 512.15 of the National Food Security Act Manual, August 1988) as wetlands which were both manipulated (drained or otherwise physically altered to remove excess water from the land) and cropped before 23 December 1985, to the extent that they no longer exhibit important wetland values. Specifically, prior converted cropland is inundated for no more than 14 consecutive days during the growing season. Prior converted cropland generally does not include pothole or playa wetlands. In addition, wetlands that are seasonally flooded or ponded for 15 or more consecutive days during the growing season are not considered prior converted cropland.

no longer exhib.
impt WL values
(ie, inundat
≤ 14 days
dur. growing season)

b. "Farmed wetlands" are wetlands which were both manipulated and cropped before 23 December 1985, but which continue to exhibit important wetland values. Specifically, farmed wetlands include cropped potholes, playas, and areas with 15 or more consecutive days (or 10 percent of the growing season, whichever is less) of inundation during the growing season.

c. The definition of "normal circumstances" found at page 71 of the Manual is based upon the premise that for certain altered wetlands, even though the vegetation has been removed by cropping, the basic soil and hydrological characteristics remain to the extent that hydrophytic vegetation would return if the cropping ceased. This assumption is valid for "farmed wetlands" and as such these areas are subject to regulation under section 404.

d. In contrast to "farmed wetlands", "prior converted croplands" generally have been subject to such extensive and relatively permanent physical hydrological modifications and alteration of hydrophytic vegetation that the resultant cropland constitutes the "normal circumstances" for purposes of section 404 jurisdiction. Consequently, the "normal circumstances" of prior converted croplands generally do not support a "prevalence of hydrophytic vegetation" and as such are not subject to regulation under section 404. In addition, our experience and professional judgment lead us to conclude that because of the magnitude of hydrological alterations that have most often occurred on prior converted cropland, such cropland meets, minimally if at all, the Manual's hydrology criteria.

e. If prior converted cropland is abandoned (512.17 National Food Security Act Manual as amended, June 1990) and wetland conditions return, then the area will be subject to regulation under section 404. An area will be considered abandoned if for five consecutive years there has been no cropping, management or maintenance activities related to agricultural production. In this case, positive indicators of all mandatory wetlands criteria, including hydrophytic vegetation, must be observed.

f. For the purposes of section 404, the final determination of whether an area is a wetland under normal circumstances will be made pursuant to the 19 January 1989 Army/EPA Memorandum of Agreement on geographic jurisdiction. For those

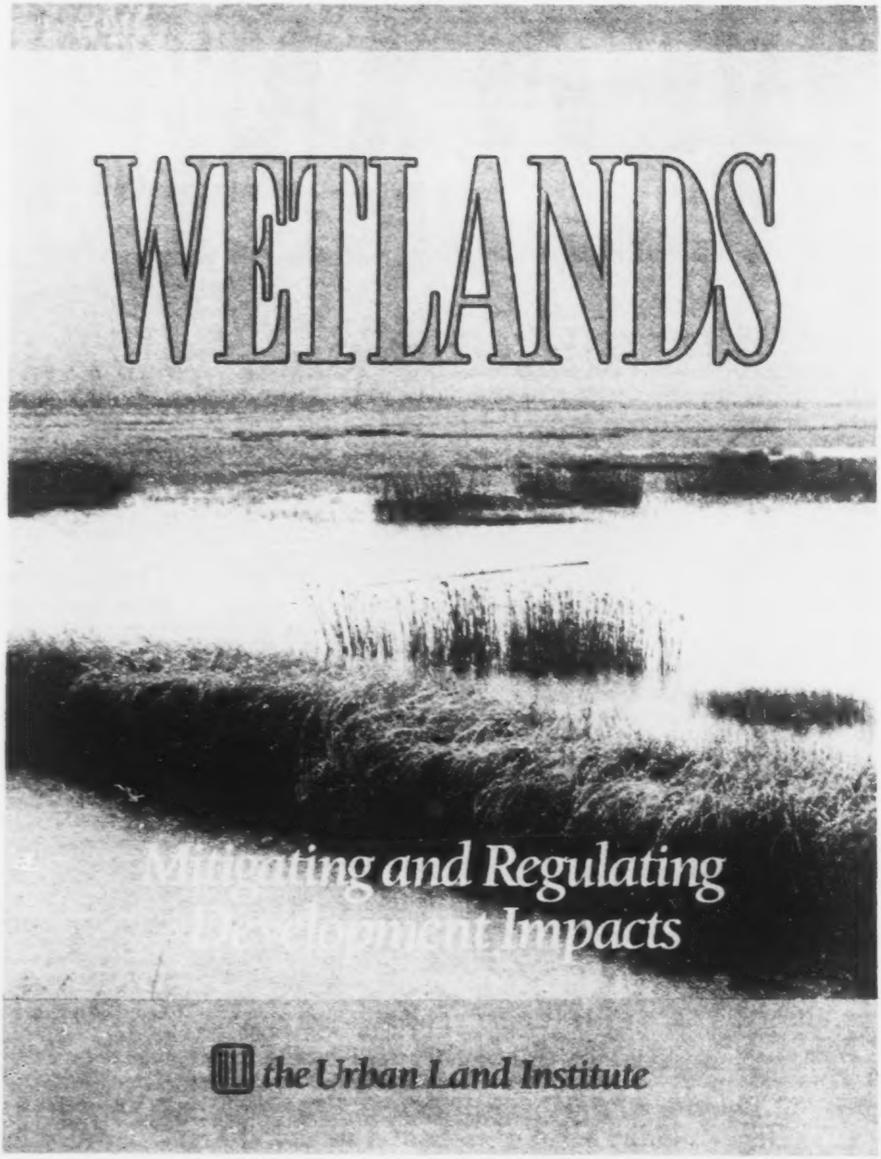
> cropped areas that have previously been designated as "prior converted cropland" or "farmed wetland" by the SCS, the Corps will rely upon such a designation to the extent possible. For those cropped areas that have not been designated "prior converted cropland" or "farmed wetland" by the SCS, the Corps will consult with SCS staff and make appropriate use of SCS data in making a determination of "normal circumstances" for section 404 purposes. Although every effort should be made at the field level to resolve Corps/SCS differences in opinion on the proper designation of cropped wetlands, the Corps will make the final determination of section 404 jurisdiction. However, in order to monitor implementation of this RGL, cases where the Corps and SCS fail to agree on designation of prior converted cropland or farmed wetlands should be documented and a copy of the documentation forwarded to CECW-OR.

6. This policy is applicable to section 404 of the Clean Water Act only.

7. This guidance expires 31 December 1993 unless sooner revised or rescinded.

FOR THE COMMANDER:

Patrick J. Kelly
PATRICK J. KELLY
Major General, USA
Director of Civil Works



WETLANDS

Mitigating and Regulating
Development Impacts

the Urban Land Institute

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David Salvesen

the Urban Land Institute

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ULI–the Urban Land Institute is a nonprofit education and research organization that fosters and encourages high standards of land use planning and development. To this end, the Institute sponsors a wide variety of education programs, conducts research, interprets current land use trends, and disseminates pertinent information.

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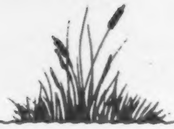

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INTRODUCTION

Let the waters under the heaven be gathered into one place, and let the dry land appear: and it was so.

Genesis 1:9

Some of the greatest U.S. cities would not be what they are today if wetlands had not been drained, filled, and developed. Washington, D.C., was built on a swamp, so were substantial portions of New York City, Philadelphia, New Orleans, San Francisco, and Boston. Many of Boston's scenic hills were leveled to fill the wetlands below. Even the renowned Beacon Hill was sacrificed to satisfy the city's appetite for more land. Around Seattle, what could be filled was filled. Land poor but people rich, these cities faced constant pressure to expand; and as their populations swelled, development spilled over into nearby wetlands—a trend that continues today.

Filling wetlands served two important social functions: it created additional land for development, and it rid a city of an apparent nuisance. For centuries, wetlands were considered a source of disease and pestilence, a quagmire of precarious earth and bloodthirsty insects. John Bunyan's *The Pilgrim's Progress*—written in the 17th century and widely read throughout the 18th— describes a bog called the Slough of Despond as an "impending obstacle, a despairingly low point, a clogged encumbrance, on the road to the promised land. . . ."[1] Motivated by similar sentiments, Congress in the mid-1800s granted millions of acres of swamps to the states with the expectation that the new owners would convert what were considered vast wastelands into productive areas, like farmland. Thousands of acres of wetlands in the farmbelt were subsequently drained for agriculture. A few states lost over 90 percent of their wetlands. This century, in critiquing Pierre L'Enfant's plan for Washington, D.C., Lewis Mumford wrote that L'Enfant had "made the most of what was, before the hand of man touched it, a discouraging site: bottom land, bordered by a swamp on the Potomac side, and dissected by a small river. . . ."[2]

Today, however, things have changed. After centuries of mistreatment, wetlands have shed their dismal image and are finally valued for their enormously important environmental and economic functions, such as flood control and the provision of wildlife habitat. Those who traditionally drained and filled wetlands, such as farmers, developers, and engineers, now venture to undo the damage inflicted years ago.

All across the United States, wetlands are making a comeback. Examples abound. On the West Coast, dikes that were built decades ago to convert wetlands to farmland or salt ponds are now being removed. After years of separation from the natural ebb and flow of the sea, the wetlands are slowly returning. Likewise, on the East Coast, restoration is underway in wetlands that were altered and degraded by urban and industrial development. And in the Midwest, a small but growing movement is afoot to convert wetlands that were once drained for farming back to native wetlands and wet prairies, and to stamp out incentives that encouraged them to be drained in the first place.

In Florida, the once-meandering Kissimmee River, channelized by the U.S. Army Corps of Engineers (Corps) into a straight-jacket of a canal, is being given a second chance. In the 1960s, the Corps transformed the lazy, 98-mile river, which ran from Lake Kissimmee to Lake Okeechobee, into an efficient, 48-mile canal. As a result, the river no longer overflowed its banks, and the adjacent marshes, prairies, and swamps dried up and were converted primarily into cattle pastures. Recently, however, after much prodding from the state, the Corps experienced a change of heart. The state convinced it to rejuvenate at least part of the old Kissimmee and its parched wetlands by diverting the water back into the original river channel. The Corps spent over $30 million to take the meanders out of the river, and it will probably cost at least twice that to put them back.

As our understanding and appreciation of wetlands expands, so does the number and scope of federal and state laws to protect them. The laws generally limit certain activities that may destroy wetlands, such as dredging or filling. Since federal laws such as the Coastal Zone Management Act and the Federal Water Pollution Control Act Amendments, commonly known as the Clean Water Act, were enacted in 1972, more and more wetlands have been sheltered under the umbrella of federal protection. For example, under Section 404 of the Clean Water Act, anyone who wants to fill a wetland must first get a permit from the Corps, which usually issues a permit on the condition that the applicant mitigates any adverse impacts on a wetland stemming from the fill. In addition, a growing number of states have adopted wetlands protection laws that are more stringent than federal laws. Ten years ago, only a few states had laws protecting wetlands, now over half the states do, and the list is growing. But the relatively abrupt transformation of wetlands from nuisances to natural treasures has not been smooth, and recent efforts to protect them have met with considerable misunderstanding and resistance.

DEVELOPMENT VERSUS PRESERVATION

Wetlands still face a barrage of threats from real estate and agricultural development. For example, when construction occurs in wetlands, developers usually convert the often mushy wetland substrate into a stabilized building site by filling a wetland with sand, dirt, gravel, or other materials. This not only destroys the filled wetland but may have far-reaching adverse effects on adjacent wetlands as well—for instance, the cutting off of natural circulation and water flow patterns. More commonly, farmers permanently alter the character of a wetland through draining or diking to bring more land into cultivation.

Despite a plethora of laws and programs to protect them, wetlands are likely to encounter increasing development pressures. Demographic trends indicate that people are flocking to water, especially along the coasts where many wetlands lie. In 1984, about 40 percent of the U.S. population lived within 50 miles of the coast. By the mid-1990s, it is estimated that about 75 percent will live near the coast.[3] Along the East Coast in particular, most of the good upland sites have already been developed and many of the remaining sites contain wetlands. In Florida—a state with one of the highest growth rates in the country—most of the remaining undeveloped land contains wetlands. As one Florida consultant observed, "It's hard to walk 200 yards without bumping into a wetland."[4] Around Puget Sound, Washington, another development hot spot, one developer bemoaned that he cannot find a piece of ground that does not contain a wetland. In these and other soggy areas where wetlands predominate, building in wetlands is practically unavoidable, and frequent conflicts between wetlands preservation and development will inevitably occur. Such conflicts arise not just in wet areas, but also in predominantly dry areas that become wet just often enough to be classified as wetlands.

Like a cold Canadian air mass colliding with warm tropical winds, the disparate forces of development and protection have generated a storm of controversy. Why? Because of the incompatible demands placed on wetlands.

In general, landowners and developers prefer to convert wetlands to more economically productive uses, such as houses or shopping centers. They claim that current wetlands protection programs are overly restrictive, unpredictable, and constitute a taking of their property without compensation. Conservationists, in contrast, prefer to preserve wetlands in their natural setting. They too complain about existing wetlands protection laws that, they assert, contain gaping loopholes that allow precious wetlands to be destroyed. By one estimate, the United States loses about 300,000 acres of wetlands every year.[5]

To make matters worse, the relationship between the Corps and the other federal agencies regulating activities in wetlands is often more antagonistic than cooperative. They have yet to implement a clear, consistent policy for protecting wetlands. Furthermore, while state wetlands programs fill some of the regulatory gaps in the federal program, they also inject confusion. For instance, with few exceptions, state wetlands definitions invariably differ, and it is not always exactly clear what constitutes a wetland; a wetland in Rhode Island may not be considered a wetland in Connecticut. Developers will often buy land that is apparently dry only to find out later that, to their chagrin, it is classified as a wetland and is therefore afforded special protection.

David Salvesen

Potter's Marsh, one of the most picturesque and productive marshes in Anchorage, Alaska, was created accidentally after the construction of a railroad caused freshwater from mountain streams to collect behind the railroad bed rather than mix directly with the tidal waters of Turnagain Arm. On weekends, throngs of visitors come to observe the many shorebirds that grace the brackish marsh throughout the summer.

THE ROLE OF MITIGATION

Although real estate development accounts for less than 10 percent of overall wetlands losses (agricultural development accounts for most of the rest), the laws against altering wetlands are toughest on developers. Just as developers must pay exactions and impact fees to offset potential impacts of their projects on a local community, or to pay for daycare facilities, low-income housing, or schools, they must also reduce the loss of wetlands and pay for any damages that their projects inflict. Draining or filling wetlands to construct roads, houses, or offices has taken its toll on these natural treasures, but over the past 10 years or so, developers have shown that they can actually improve the quality and increase the quantity of wetlands. By relocating a proposed development to another site to obviate filling a wetland, adjusting lot lines to position most buildings on the upland portion of a site, or creating or restoring a wetland in exchange for any fill, developers have avoided, reduced, and compensated for wetlands alterations. This is generally referred to as wetlands mitigation—a catch-all term for any activity taken to avoid or minimize damage to wetlands, and to restore, enhance, or create wetlands as well.

Wetlands mitigation appears to promise the best of both worlds by allowing development to occur in wetlands while ensuring that wetlands will eventually be "made whole" again. In theory, by avoiding building directly in wetlands, or by creating a new wetland for each one filled for development, mitigation could resolve all conflicts about the development or preservation of wetlands. And although in practice mitigation is often an imperfect compromise, given the strong, competing pressures on wetlands, mitigation is, for now, the best available solution to an otherwise intractable problem. While not a perfect solution nor the technical fix for which many had hoped, wetlands mitigation has significantly reduced the acreage of wetlands destroyed by development and has resulted in thousands of new wetlands being constructed.

Although it shows great promise as a means to stem or even turn the tide of wetlands losses, mitigation has actually fueled the fires of controversy. Arguments arise in part because no strong consensus has materialized on exactly what constitutes mitigation, but also because of disagreements, particularly within the scientific community, on its effectiveness. Many mitigation strategies are still considered experimental; they involve tradeoffs of certain losses for uncertain gains. Wetlands are dynamic ecosystems with unique and often complex geology, hydrology, vegetation, and soils, which make them especially difficult to recreate. Attempts to recreate (or, to use a more fashionable term, "replicate") them have yielded mixed results. For reasons not fully understood, some created wetlands perform marvelously while others do poorly, and it is not uncommon to create an apparent facsimile of a natural wetland only to have it inexplicably fall apart a few years later. Waves can wash away unprotected, fledgling marshes, weeds can invade and quickly overwhelm a site, or desirable wetlands plants may perish because the water is too shallow or too deep. Wooded freshwater wetlands in particular, such as cedar swamps, are extremely complex and have proven stubbornly unpredictable and uncooperative. Some newly created forested freshwater wetlands may take from 50 to 100 years before they begin to resemble a natural system. Who is going to monitor and maintain such long-term projects?

The most controversial form of wetlands mitigation is the creation of a brand new wetland to replace one lost to development. Depending on whom you ask, wetlands creation is either the greatest thing since plastic wrap or it is the biggest hoax since the advent of snake oil. To its supporters, wetlands creation allows development to occur in wetlands, especially where fill is unavoidable, while improving the quality and quantity of wetlands overall. Just as we can grow apples in the desert, these advocates assert, we can create wetlands where none existed before. Critics of wetlands creation, however, declare that there is nothing like the real thing: artificial wetlands can scarcely be considered adequate substitutes for natural ones, and until scientists better understand the dynamics of wetlands, these complex natural systems should not be moved around the landscape like checkers on a checkerboard. Man, the critics argue, cannot successfully create wetlands; only God can. According to one outspoken botanist, "It is morally unethical to obliterate wetlands without knowing what we're doing."[6] The concept of mitigation is suspiciously viewed as an excuse to alter irreplaceable ecosystems. Each side of what has become an impassioned debate can point to wetlands creation successes and failures to support its argument. The debate rages on in negotiations between developers and regulators, in journals, public hearings, and in state and federal legislatures. In the meantime, development marches on and wetlands filling continues.

Despite the uncertainties, a number of mitigation strategies have been implemented, and although few, if any, tried and true strategies exist, some techniques look promising. Developers are learning to avoid unnecessary wetlands alterations, and a new breed of wetlands scientists is emerging to test, refine, and select those techniques that yield the best results. Although still on the low end of the mitigation learning curve, scientists have unraveled many of the secrets of what makes wetlands flourish, discovered the limits of different techniques, identified the critical factors necessary for successful mitigation, and have now reached the point where they can predict, with some degree of certainty, which mitigation techniques will work under different circumstances, and which will not.

But fundamental questions remain–unanswered. When a wetland is filled, for example, what kind of wetland will take its place, and where will it be located? Should the replacement wetland be the same kind as the old one, or will any wetlands type suffice? (In the jargon of wetlands mitigation buffs, this is referred to as either "in-kind" or "out-of-kind" mitigation.) Will it be located on-site, nearby, or 20 miles away?

The U.S. Environmental Protection Agency (EPA) and the U.S. Fish and Wildlife Service (FWS) usually prefer in-kind replacement because they believe it is the best way to restore lost wetlands values. Thus, if a developer fills a salt marsh, an equivalent salt marsh should be created as compensation. It sometimes makes sense, however, to create a different kind of wetland as compensation. Because different wetlands attract different species of animals and plants, wetlands can be tailored-made for the particular species an agency wants to attract. Such "designer" wetlands can, for instance, increase habitat for endangered species. A related issue is whether wetlands should be created on or off site. EPA and FWS usually prefer on-site mitigation, but that is often economically and technically impractical, especially for small fills of one acre or less. Off-site mitigation may be the only reasonable option. One drawback of off-site mitigation, however, is that it often cannot replace the type and functions of the wetland being filled. For example, a created wetland may be too far removed from the filled wetland to provide any value to local animals that relied on it for food and shelter. Ideally, replacement wetlands should be located as close to the original site as possible, and some states require that the created wetland be located within the same watershed as the filled wetland.

MITIGATION BANKING

One promising mitigation technique that recently appeared on the horizon is called "mitigation banking." This technique is especially useful for mitigating small wetlands fills, such as for highway crossings, where individual impacts are typically small and localized but cumulatively significant, and also for large projects, such as marinas, where losses are often unavoidable and the opportunities for on-site mitigation may be limited. Mitigation banking generally works something like this: a degraded wetland is purchased and restored (or a wetland is created) by one party, such as a government agency; this restored site becomes the bank; the values of the restored wetland are somehow quantified and

Michael Josselyn

Revegetation of Bracut Marsh for use as a mitigation bank in Eureka, California, has been slow and patchy.

used as "credits" that can later be withdrawn, at a price, to compensate for unavoidable wetlands fills. The price of the credits covers the cost of acquisition, restoration, and operation. For example, suppose construction of a county highway will require filling one acre of a wetland for an exit ramp. There is nowhere else for the ramp to go and no opportunity to compensate for the loss on site. The county may purchase one acre of mitigation credits from the bank (or two acres if 2:1 mitigation is required) as compensation. Similarly, a developer may restore a wetland and receive a certain number of credits for that restoration. These credits are placed in an account and may later be withdrawn to compensate for unavoidable losses associated with the developer's future projects. The bank can be used to compensate for adverse impacts of one or more development projects.

The attraction of a mitigation bank is that rather than creating small, isolated wetlands to compensate for each wetland alteration, one large, contiguous wetland can be created to mitigate many individual alterations. A single, 10-acre wetland is more valuable and easier to create than 20 unconnected, half-acre wetlands. Also, many developers have neither the experience nor the inclination to restore or create a wetland. It may be more efficient, therefore, to let a resource agency select a site, design and implement a mitigation plan, and be responsible for monitoring and maintaining the wetland. An agency-sponsored bank takes the responsibility and the hassle out of developers' hands and gives it to an agency that will be likely to have a greater interest in the long-term success of the wetland. Mitigation banking can also streamline the permit process for certain sites by providing a readily available supply of credits to those who need and qualify for them. And it gives developers a rough idea of how much mitigation will cost.

One of the main drawbacks of mitigation banking is that it may lead to a net loss in wetlands values if the created or restored wetland in the bank is of a lower quality than the wetland that was filled. Also, banks are susceptible to abuse: developers will have little incentive to reduce wetlands losses if they can simply buy credits from a bank instead. According to one critic, mitigation banking proves that "developers are smarter than regulators," since it allows developers conveniently to buy prefabricated wetlands to mitigate for avoidable losses.[7]

FWS has been involved with 13 mitigation banks over the last several years, with varying degrees of success. The banks' holdings range from 11 to over 9,000 acres. Mitigation banks have been established in Oregon, California, North Carolina, Minnesota, North Dakota, Utah, and Louisiana. Banks have been used most commonly for development of highways and ports.[8]

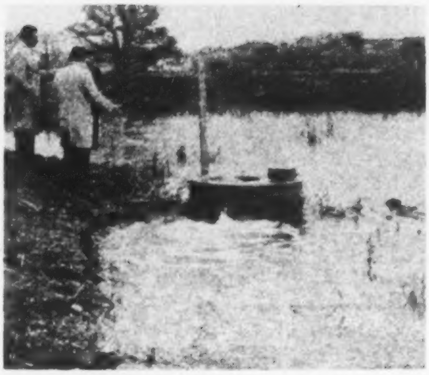
In Astoria, Oregon, a mitigation bank was established by reclaiming a small piece of intertidal wetland that was diked years ago. Over the last 100 years, more than 86 percent of the tidal marshes in the Columbia River estuary were lost, primarily due to diking. The 32-acre Astoria Airport Mitigation Bank was created by breaching the dike and exposing the site once again to tidal inundation. The bank is used to offset unavoidable wetlands losses incurred by development in the estuary.[9] After correcting some initial problems with the restoration, the tidal wetland is now functioning quite well, according to Oregon's Division of State Lands. But development in Astoria has been slow, and only one debit for 10.5 acres has been withdrawn so far.

In Humboldt Bay, California, a mitigation bank was established in 1981 to offset wetlands losses incurred from filling small "pocket marshes" in the industrial waterfront areas in the city of Eureka. Pocket marshes are small wetlands (of two acres or less) that have been isolated from tidal action by past development, have a relatively low value because of their size and isolation, and cannot be easily restored to a fully functional marsh.[10] Like the Astoria bank, the Eureka mitigation bank was created, at a cost of about $30,000 an acre, by breaching a dike and restoring tidal action to a 13-acre, former wetland that had been filled and used as a lumber yard. Unlike the Astoria bank, however, the Eureka mitigation bank has not been very successful. About five acres were graded and planted to create a wetland dominated by salt marsh cordgrass (hereafter referred to simply as "cordgrass"), but revegetation has been slow, and most of the site remains bare. Nonetheless, the largely unvegetated site is highly attractive to shorebirds and ironically now supports the largest population of Humboldt Bay Owl's Clover, an endangered species that inhabits disturbed sites.[11]

According to an official of the California Coastal Conservancy, the bank was a noble idea that has not worked out as expected. The main problem is that the site is loaded with wood chips, which either float to the surface and drift out to the bay or decompose and create anaerobic conditions that ultimately suffocate desirable marsh plants. In addition, off-road vehicles trample young plants and frighten shorebirds away. The Conservancy has taken a number of steps to improve the condition of the marsh, such as installing a fence to exclude off-road vehicles and revegetating some barren areas. In addition, the Conservancy plans to dredge the tidal channels to improve water circulation and replace the gravel and wood-chip laden, hardpacked soil with cleaner, loamier soil.

RECENT RESEARCH ISSUES

Much of what we know about wetlands derives from research and from the hundreds of wetlands mitigation projects undertaken each year. The trick to establishing mangrove swamps in tropical Florida is to start by creating a salt marsh composed primarily of cordgrass, interspersed with mangrove seed pods. The cordgrass, which often matures in one or two growing seasons, protects the young mangrove seedlings until they become old enough to fend for themselves. Over time, the mangroves replace the cordgrass. Scientists have also discovered that some common wetlands plants are more demanding than others. For example, cordgrass is very picky about where it will grow. It lives only in a very narrow range of elevations and is therefore difficult to establish in a newly created marsh.


Flygt Corporation

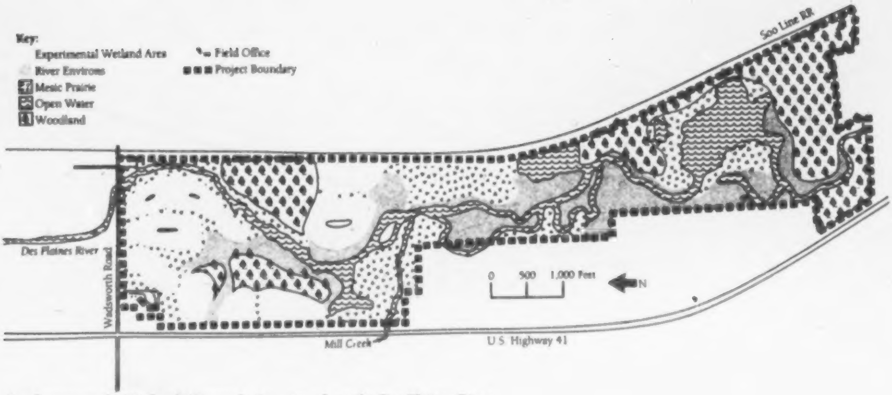
Water levels at Wetlands Research's experimental wetlands along the Des Plaines River will be controlled artificially with pumps and control gates.

Every wetlands mitigation project contributes to a collective understanding of how wetlands function and how they can be successfully created. Over time, experience will weed out the less successful mitigation methods and result in a set of proven techniques for creating artificial wetlands that closely resemble natural ones—a kind of artificial wetlands darwinism. Unfortunately, a number of wetlands creation efforts will fail, some within a year or two, others several years later. In order to prevent, as one wetlands biologist remarked, all the "trials from becoming errors," a number of research efforts are underway to evaluate the long-term viability of created wetlands.

Michael Joscelyn

Tidal wetlands offer vital resting and feeding places to migrating waders and other shorebirds. Here, curlews and marbled godwits feed at Bracut Marsh.

One ambitious research project is being conducted by an organization called Wetlands Research, Inc., along the Des Plaines River in metropolitan Chicago. The site, located 35 miles north of Chicago, incorporates 2.8 miles of the river and about 450 acres of disturbed riparian land. The river had been channelized, and most of its adjacent wetlands were diked and drained for farming or excavated for the gravel beneath. Wetlands Research plans to reconfigure 2.8 miles of the streambed and to reconstruct the wetlands that once naturally occurred. It will construct, at an estimated cost of more than $10 million, eight experimental wetlands areas in which it can control water depth, flow, and detention times. Four of the eight experimental wetlands, which range in size from 4 to 11.6 acres, have been completed. These experimental areas serve as living laboratories where different wetlands creation techniques can be tested. Wetlands Research, Inc., hopes eventually to produce a wetlands design and management operations manual. Through its research, it may be able to eliminate many of the present uncertainties that constrain wetlands creation efforts.



Land cover at the Wetlands Research, Inc., site along the Des Plaines River.

DEVELOPERS AND MITIGATION

Fifteen years ago, few developers were very concerned with wetlands, and the term mitigation had not found its way into their vocabulary. Today, however, one of the first questions developers often ask when buying property is, "Are wetlands present?" Why? Because developers know they will be required to mitigate adverse impacts on wetlands caused by development and that it could easily cost them over $1 million to do so. Developers, however, cannot fairly be expected to shoulder the entire burden of reversing wetlands losses. Although responsible for some wetlands destruction, developers can boast of preserving, restoring, and creating thousands of acres of wetlands. In fact, developers have restored some of the most degraded wetlands simply because no one else is willing and able to pay the sometimes enormous costs. The challenge for regulators is to find ways to improve the overall quality of wetlands while allowing developers the opportunity to obtain a reasonable return on their investment. Developers are, by nature, creative, independently minded people, and where it is in their financial interest to preserve, restore, or create wetlands, they will. Many of their approaches to wetlands mitigation are exemplary, as some of the examples in this book will illustrate.

This book explores many of the current issues in wetlands mitigation, examines federal, state, and local wetlands regulations, describes wetlands mitigation strategies, and provides several examples of recent mitigation efforts. Although only a relatively small, but growing, share of wetlands losses can be attributed to real estate development, this book highlights what developers have done to reduce wetlands losses and to compensate for wetlands fills. Chapter 1 provides a brief background on wetlands: what they are, where they are located, the extent of wetlands losses, and why they are worth saving. Chapter 2 describes federal wetlands regulations, particularly the regulations under the Clean Water Act, and includes an overview of the Corps permit process and a discussion on the takings issue (that is, when, if ever, do wetlands regulations violate the Fifth Amendment of the Constitution by effectively taking private property without compensation). Chapter 3 provides an overview of state wetlands regulations and includes a brief synopsis of six state programs. Chapter 4 presents several wetlands mitigation strategies with case studies provided for illustration. It includes some general guidelines for successful wetlands mitigation based primarily on discussions with regulators and developers.

Notes

1. John Bunyan, *The Pilgrim's Progress*, Part I (1678).
2. Lewis Mumford, *The City in History* (New York, New York: Harcourt, Brace and World, Inc., 1961), p. 405.
3. Testimony of James A. Barnes, U.S. Environmental Protection Agency deputy administrator, given before the Senate Environment and Public Works Subcommittee on Environmental Pollution, 1987.
4. Carol Sawyer Lotspeich, quoted in James Krohne, Jr., "When it Comes to Wetlands, There's Nothing Like the Real Thing," *Planning*, February 1989, p. 5.
5. U.S. Office of Technology Assessment, *Wetlands: Their Use and Regulation* (Washington, D.C.: United States Congress, Office of Technology Assessment, 1984), p. 11.

6. Personal conversation on August 10, 1989, with Gerould Wilhelm, research field taxonomist, Morton Arboretum, Lisle, Illinois.

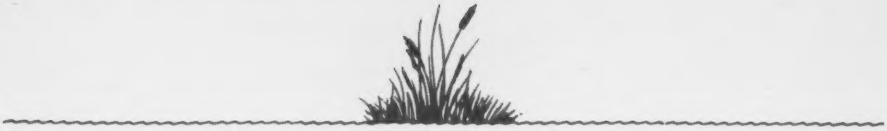
7. Personal conversation on September 25, 1987, with Earl Smith, director of The Wetlands Fund, a private, nonprofit organization raising money for research and development of buffer zones along the Chesapeake Bay in Maryland.

8. See Cathleen Short, "Mitigation Banking," Biological Report 88(41), U.S. Fish and Wildlife Service, Research and Development, Washington, D.C., July 1988, p. iii.

9. See the unpublished report by the Oregon Division of State Lands, "Astoria Airport Mitigation Bank, Astoria, Oregon. Resource Credit Evaluation," November 1986, p. 3.

10. See Short, "Mitigation Banking," p. 49

11. Information from John Zentner, "Wetland Projects of the California State Coastal Conservancy: An Assessment," *Coastal Management*, vol. 16, 1988, pp. 47–67; and from personal conversation on February 15, 1989, with Elizabeth Riddle, program manager, California Coastal Conservancy.



THE NATURE OF WETLANDS

"When I use a word," Humpty Dumpty said in a rather scornful tone, "it means just what I choose it to mean— neither more nor less."
"The question is," said Alice, "whether you can make words mean so many different things."
Alice in Wonderland

WHAT IS A WETLAND?

In a way, the term "wetland" is a misnomer. Sure, most wetlands have standing or flowing water, but many are dry for part of the year, and others, such as coastal wetlands influenced by the tides, are often dry twice a day. You can often walk in a wetland and not get your feet wet.

No two wetlands are exactly alike: they come in all shapes and sizes, and go by some very unusual names like fens, muskegs, and sloughs. They occur in all 50 states and are as varied as the states in which they occur. They range from infrequently flooded lands to areas that are constantly flooded with deep water. Often found in the transition zone between upland and open water, wetlands tend to be located in depressions or low-lying areas beside lakes, rivers, and streams and along the coast. They are in-between places: not quite land, not quite water. Wetlands usually contain calm, shallow waters and can be as small as a half-acre vernal pool in California, or as large as the broad, shallow, 5,000-square-mile expanse of wetlands that comprise a river of grass called the Florida Everglades—one of the world's biggest marshes. They include isolated prairie potholes that dot the landscape in North Dakota, salt marshes carpeted with thick mats of spartina grass in the coastal plain of New Jersey, extensive bottomland hardwood forests in Mississippi and Louisiana, and mangrove forests that cling tenaciously to the coast of southern Florida. Each has a different hydrology, soil condition, and dominant vegetation, and each responds differently to disturbances. Some wetlands are hardy and resilient, while others are more fragile.

Despite their differences, all wetlands have two things in common: they have a soil that is at least periodically saturated or covered with water, and they contain plants that can tolerate such conditions. Water is the controlling factor in determining the type of plant and animal communities that live in wetlands. Most plants cannot survive in the soggy conditions found in wetlands, but others thrive on it. Indeed, the presence of hydrophytic or "water-loving" plants, such as cattail, cordgrass, or pickerelweed, is often used to identify wetlands. Wetlands also exhibit characteristic soil types called hydric soils, which the U.S. Department of Agriculture's Soil Conservation Service defines as soils that become saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in their upper layers. The upper soil layers of some wetlands consist of a thick layer of dark, oozy muck, while other wetlands soils develop characteristic patterns of coloration or mottles formed by the presence of different minerals.

WETLANDS TYPES

Wetlands can be divided into two broad categories: tidal and nontidal. This classification, based on water

FIVE EXAMPLES OF WETLANDS DEFINITIONS

U.S. Fish and Wildlife Service

"Lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. . . . [W]etlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes, (2) the substrate is predominantly undrained hydric soil, and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year."[1]

U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers

"Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."[2]

State of Wisconsin

"Those areas where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation, and which have soils indicative of wet conditions."[3]

State of Connecticut

"Wetlands means land, including submerged land, which consist(s) of any of the soil types designated as poorly drained, very poorly drained, alluvial or flood plain by the National Cooperative Soils Survey, as may be amended from time to time, by the Soil Conservation Service of the U.S. Department of Agriculture."[4]

State of California

"Lands within the Coastal Zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish marshes, swamps, mudflats, and fens."[5]

Notes:

1. Ralph W. Tiner, Jr. , U.S. Fish and Wildlife Service, *Wetlands of the United States: Current Status and Recent Trends*, National Wetlands Inventory Project (Washington, D.C.: U.S. Department of the Interior, Fish and Wildlife Service, 1984), p. 3.
2. EPA, 40 CFR 230.3; and Corps, 33 CFR 328.3.
3. NR 115.03 WAC.
4. 22a–38 Connecticut General Statues.
5. CA Coastal Act of 1976, Section 30121.

regimes, parallels many legislative distinctions. Many coastal states, such as California, regulate activities in tidal wetlands only. In addition, few plants grow well in both freshwater wetlands and the salty environment of tidal wetlands. Even cordgrass, which dominates many salt marshes, competes poorly with other plants in freshwater wetlands. Thus, plants provide a convenient distinction between tidal and nontidal wetlands. Tidal wetlands either flood regularly with the daily ebb and flow of tides or only irregularly, during spring or storm tides. Nontidal wetlands, consisting primarily of freshwater wetlands, comprise the bulk (about 95 percent) of all wetlands and occur inland as well as along the coast.

South Florida Water Management District

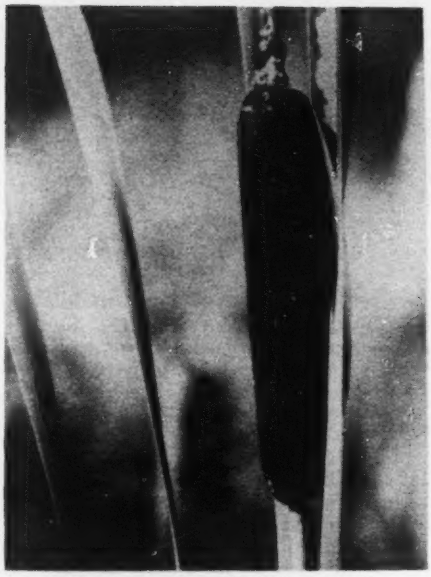
A great white heron peeks above a sawgrass prairie in the Florida Everglades.

Tidal wetlands include salt and brackish water marshes, mangrove swamps, and intertidal flats. Salt marshes typically occur behind barrier islands and beaches. A handful of soft-stemmed plants such as cordgrass and salt hay along the Atlantic and Gulf Coasts and Pacific cordgrass and glasswort along the Pacific Coast usually dominate such marshes. Cordgrass, a stiff, coarse grass, typically occupies the area closest to the water and is washed twice daily by high tides. Salt hay, a soft, slender grass, grows further from the water's edge. Both plants have developed special mechanisms that allow them to live in harsh conditions of soggy soil and saltwater.

Brackish marshes can be found along the coast where freshwater from rivers and streams meets and mixes with saltwater. They contain wetlands plants such as tide marsh water hemp, pickerelweed, arrow-arum, and cattail among others. Mangrove swamps occur along the coast in tropical Florida and are dominated by either red or black mangroves. Red mangroves occupy the lower, regularly flooded reaches of the swamp and black mangroves live in the upper areas. Unlike most other woody plants, mangroves can live in saltwater. Usually found seaward of tidal marshes and mangrove swamps, as well as at river mouths or along rocky coasts, intertidal flats consist of muddy, sparsely vegetated areas that are regularly inundated by the tides.[1]

Nontidal wetlands generally occur inland along streams, lakes, and ponds and include bogs, swamps, and bottomland hardwood forests. Nontidal wetlands fall into three general categories: emergent, scrub-shrub, and forested.

Freshwater emergent marshes, like their saltwater cousins, are dominated by "emergents"—grasses and grass-like plants that grow partly under and partly above water. Such marshes occur throughout the United States, usually along rivers, streams, lakes, and ponds. The Everglades, a vast, wet area of billowing sawgrass, is a freshwater marsh. Typical freshwater marsh plants include various species of sedges and rushes, such as fox sedge and soft rush, as well as prolific and aggressive plants like cattail, common reed, purple loosestrife, and reed canary grass, which are usually considered weeds. Once these weedy plants invade a site, they can quickly



Courtesy U.S. EPA

One of the more aggressive wetlands plants, cattail can form dense monocultures in freshwater wetlands. Although it provides food for wildlife, some biologists rank cattail with other weedy heavyweights such as common reed and purple loosestrife.

SPECIAL ADAPTATIONS OF PLANTS LIVING IN SALT MARSHES

Water is a great equalizer. The principle of osmosis states that when dissolved substances occur in unequal concentrations on opposite sides of a wet membrane, water tends to move from the lower concentration to the higher concentration in order to make the two sides equal. This process spells doom for most plants exposed to seawater, since the concentration of salts in seawater is much higher than that in the cells of most plants, and the saltier water essentially sucks the freshwater, and thus the life, out of the plant.

Relatively few plants can survive the harsh conditions of salt marshes. But some plants, such as cordgrass and mangroves, have developed remarkable adaptations that enable them to thrive in salty, wet environments. For example, cordgrass cells can increase the concentration of salt in their internal water so that it exceeds the concentration of seawater that surrounds them. Freshwater moves into cordgrass cells by osmosis, and any salt that does find its way into the plant is summarily disposed of by glands peculiar to cordgrass and mangroves. These glands secrete a very concentrated solution of salt through special pores leading to the outside of a leaf; water secreted with the salt evaporates and leaves behind salt crystals, which are washed away by the next high tide. Thus, cordgrass survives by keeping most of the salt out of its sap, by secreting what little salt does get in, and by concentrating some of this same salt in its cells so that they will be able to resist the tension placed upon the sap by evaporation through the stomata.[1]

Mangroves, which exhibit some of the same salt management features of cordgrass, have developed a few clever adaptations of their own. For example, red mangrove roots drop down from lower branches of the tree and eventually become stems themselves with their own root systems, while the horizontal roots of black mangroves fan out underground and send up vertical branches through the mud. Both plants create an impenetrable tangle of roots and stems that can crowd out most other plants. Probably the most unusual feature of mangroves, however, is the plant's method of seed dispersal. Red mangrove seeds begin sending out roots even before they fall from the mother plant. After a seed falls, it floats for about a month or so, getting knocked around by the tides, until the root grows sufficiently dense to pull the fledgling plant underwater. With luck, the root will lodge in relatively shallow water and eventually grow into a tangled mass of red mangroves.

Note:

1. John and Mildred Teal, *Life and Death of the Salt Marsh* (New York, New York: Ballantine Books, Inc., 1969), pp. 87–90.

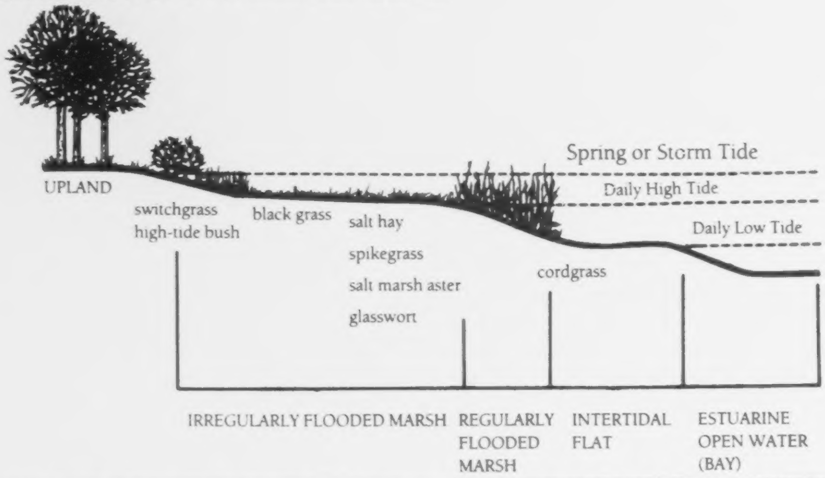
Ducks Unlimited, Inc.

Prairie potholes, such as these in North Dakota, provide vital nesting grounds for over half of all North American ducks.

form dense, expansive monocultures and crowd out most other plants. Common reed, which can grow up to 14 feet tall in either fresh or brackish water, is particularly abundant in polluted marshes where little else grows, such as the Hackensack Meadowlands in northern New Jersey.

Freshwater marshes may contain standing water throughout the year, or they may be flooded only a few times during the year. The water level may vary from just a few inches to over two feet deep. Some marshes, such as the prairie potholes in the upper Midwest, may dry out completely during droughts but then bounce back when the rains return. "Potholes"—depressions scoured out of the ground by glaciers during the last ice age—occupy a region roughly 300,000 square miles in size that extends from south-central Canada to the north-central United States. Like the prairie potholes in the Midwest, small, shallow wetlands called "vernal pools" occur in certain regions of central and southwestern California. Little more than shallow depressions that fill with water during the rainy fall and winter seasons and then dry out completely in the summer, these ephemeral, seasonal wetlands support a variety of unusual organisms that have adapted to a life of extremes: bone dry and soaking wet. Water lies just long enough to inhibit the growth of most nonwetlands plants but evaporates before typical pond or marsh plants can flourish. Such conditions favor specialized plants that can either tolerate a wide range of conditions, such as popcorn flower, or that can complete their life cycle during the short span when standing water is present, such as waterwort.[2]

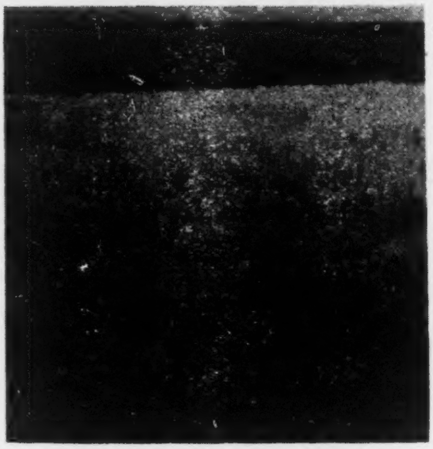
FIGURE 1.1
CROSS SECTION OF A TYPICAL SALT MARSH


Spring or Storm Tide
Daily High Tide
Daily Low Tide
UPLAND
switchgrass
high-tide bush
black grass
salt hay
spikegrass
salt marsh aster
glasswort
cordgrass
IRREGULARLY FLOODED MARSH
REGULARLY FLOODED MARSH
INTERTIDAL FLAT
ESTUARINE OPEN WATER (BAY)

Source: Ralph W. Tiner, Jr., U.S. Fish and Wildlife Service, *Wetlands of the United States: Current Status and Recent Trends*, National Wetlands Inventory Project (Washington, D.C.: U.S. Department of the Interior, Fish and Wildlife Service, March 1984), p. 8.

Scrub-shrub wetlands are dominated by woody vegetation—typically shrubs and small, scrubby trees less than 20-feet tall. They include bogs found in Michigan, Wisconsin, Alaska, and along the East Coast. One of the more unusual wetlands types, bogs are characterized by acidic water and poorly drained, low-fertility soils, often containing a thick layer of partially decomposed plant matter that can reach a depth of over 30 feet. In Pocono, Pennsylvania, such peat soils have long been mined for sphagnum moss. Bogs contain many acid-tolerant plants such as cranberry or bog laurel, carnivorous plants such as pitcher plant and Venus-flytrap. Bogs typically do not experience the regular flooding that typifies marshes and wetlands in floodplains.

A close relative of bogs, pocosins occur primarily in the coastal plain of the Carolinas. Pocosin is an Algonquin Indian word for "swamp on a hill." Like bogs, pocosin wetlands usually contain poor soils, thick layers of peat, evergreen shrubs, and stunted trees. But unlike bogs, pocosins lie in elevated depressions rather than in flat areas along streams.

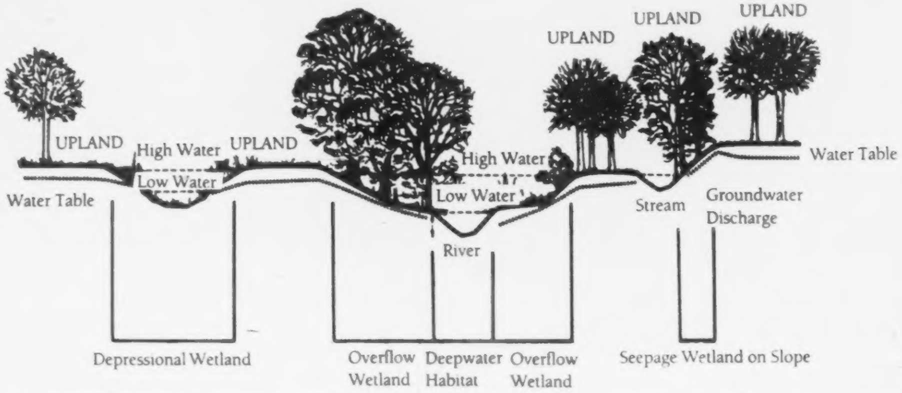

Wayne Ferren

Alternately wet and dry, this vernal pool along the Southern California coast hosts an unusual assortment of plants and animals.

Forested wetlands include wooded swamps and bottomland hardwood forests that can be found along rivers and streams throughout the United States, although they occur most frequently in the eastern half of the country and in most of Alaska. They contain trees that tolerate prolonged wet conditions, such as willow, red maple, black gum, and northern white cedar in the north, and bald cypress, tupelo gum, and various oaks in the south. Trees such as bald cypress are noted for their ability to withstand long periods of flooding and

FIGURE 1.2

CROSS SECTION OF FRESHWATER WETLANDS


UPLAND
UPLAND
UPLAND
UPLAND
High Water
UPLAND
High Water
Water Table
Low Water
Water Table
Low Water
Stream
Groundwater Discharge
River
Depressional Wetland
Overflow Wetland
Deepwater Habitat
Overflow Wetland
Seepage Wetland on Slope

Source: Ralph W. Tiner, Jr., U.S. Fish and Wildlife Service, *Wetlands of the United States: Current Status and Recent Trends*, National Wetlands Inventory Project (Washington, D.C.: U.S. Department of the Interior, Fish and Wildlife Service, March 1984), p. 2.

Bottomland hardwood swamps typically occur in floodplains along rivers and streams. In the Mississippi River valley, such swamps have suffered heavy losses due to conversion to farmland.

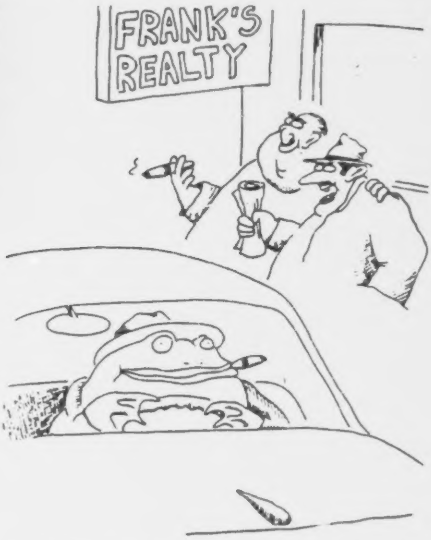
Courtesy U.S. FWS

gale-force winds. Bald cypress trees, characterized by massive, columnar trunks with swollen, fluted bases, generally contain several descending roots that anchor the tree and many shallow, wide-spreading roots from which rise the peculiar conical structures called "knees." Its root system allows bald cypress to anchor firmly its massive bulk even on the most unstable soils. It is often found in pure stands in bottomland hardwood swamps, such as along the lower Mississippi River valley.

WETLANDS VALUES

Wetlands are what we formerly called swamps, what muskrats dream about, what charlatans in Florida used to sell to unsuspecting retirees in New York. They were considered good only for mosquitoes, ducks, and dumps; a convenient place to put things that nobody else wanted in their neighborhood, like industrial parks, football stadiums, prisons, and airports. Most of the nation's major airports were built on wetlands. Even the names we gave wetlands, like the Great Dismal Swamp along the Virginia–North Carolina border, conjure up images of a gloomy, dreadful wasteland. Wetlands were readily drained, filled, and converted to something more "useful" before we found out that, like fiber, they were good for us. But exactly what are wetlands good for? What unique functions do they serve? Why should they be protected?

THE FAR SIDE By Gary Larson



Well, another sucker just bought twenty acres of swampland.

Reprinted by permission of Chronicle Features, San Francisco, CA

Thousands of acres of coastal marshes along the East Coast were ditched, initially by hand, and drained for agricultural and residential development.

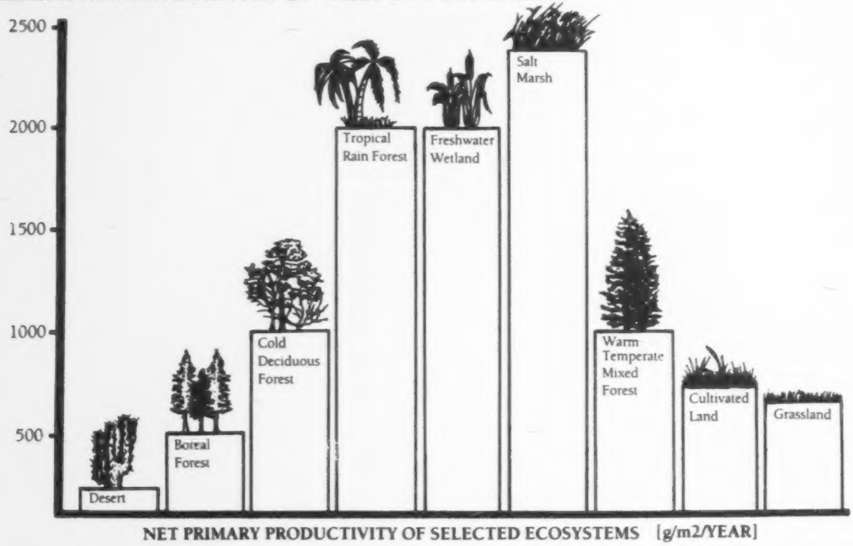
Courtesy New Jersey Historical Society

Wetlands comprise one of the Earth's most productive natural ecosystems and can out-produce even the most groomed and pampered Iowa cornfields—which is precisely why so many have been drained for agriculture. They have a remarkable knack for capturing and storing sunlight and efficiently recycling materials. They also have an extraordinary ability to shelter fish and wildlife, cleanse polluted and silt-laden water, and protect against floods.

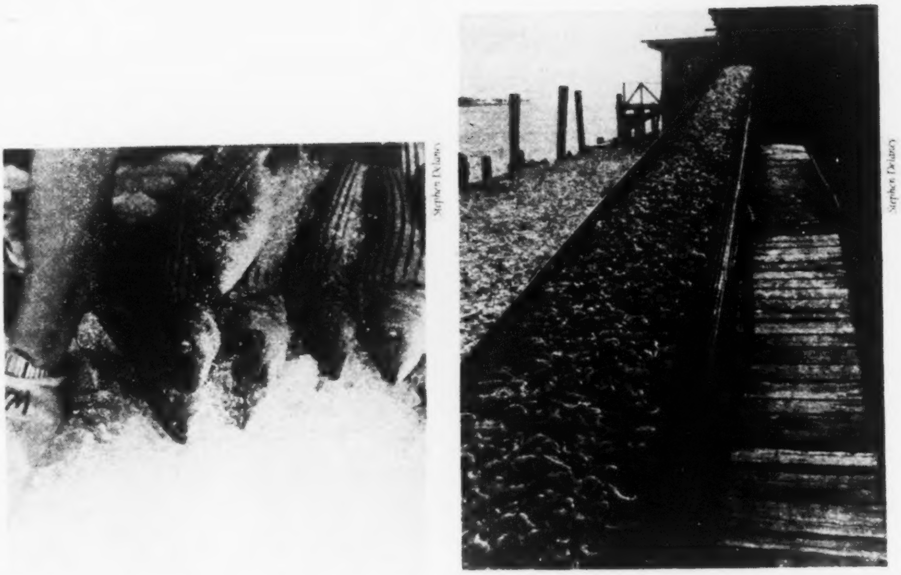
Wetlands provide vital resting, breeding, and feeding places for birds—a pitstop for migrating waterfowl, such as ducks and geese. Over half of all North American ducks nest in the prairie potholes of the north-central United States and southern Canada.[3] In addition to their tremendous natural values, wetlands provide substantial economic benefits as well. Millions of hunters spend a great deal of money—over $300 million per year—to hunt waterfowl.[4] Coastal wetlands, often dubbed the "nursery of the sea," provide essential shelter and spawning grounds for commercially valuable fish like sea trout, blue fish, and flounder, as well as shellfish like oysters, crabs, and shrimp. About two-thirds of U.S. shellfish and commercial sports fisheries rely on coastal marshes for spawning and nursery grounds.[5] In the Southeastern coastal region, for example, over 95 percent of commercial and over 50 percent of recreational fish and shellfish harvests consist of species that depend on estuaries, which are closely linked with coastal wetlands, for all or part of their life cycles.[6] In Louisiana, approximately 75 percent of all commercial marine species, including shrimp and menhaden, rely on coastal marshes and estuaries for part of their life cycle. The state's annual seafood catch is worth about $170 million.

Wetlands help maintain water quality. In some ways, wetlands function like kidneys, filtering out pollutants to purify water before it enters streams, lakes, or oceans. In fact, because of the uncanny ability of wetlands to thrive on nutrient-rich water, a growing number of communities rely on both natural and manmade wetlands to treat tertiary wastewater or stormwater. Houghton Lake, a small community in Wisconsin, pioneered the use of wetlands for wastewater treatment back in 1923. In the Midwest and Southwest alone, over 300 projects receive a total of 10 million gallons of wastewater a day. Most of these wetlands are smaller than 30 acres; the largest, 700 acres, is in Michigan.[7] One of the most innovative and successful examples of using wetlands for wastewater treatment is in Arcata, California. Arcata's mechanical processing plant removes and disinfects solids, which are used as fertilizer in the city parks. The remaining wastewater is then pumped into a 96-acre artificial marsh that filters the

RELATIVE PRODUCTIVITY OF VARIOUS ECOSYSTEMS



Source: Ralph W. Tiner, Jr., U.S. Fish and Wildlife Service, *Wetlands of the United States: Current Status and Recent Trends*, National Wetlands Inventory Project (Washington, D.C.: U.S. Department of the Interior, Fish and Wildlife Service, March 1984), p. 20.



Stephen Delaney

Stephen Delaney

Coastal wetlands protect young fish from predators and provide a rich source of food. Many commercially important fish and shellfish, such as striped bass and shrimp, depend on coastal marshes and estuaries for their survival.

water before it enters Humboldt Bay. The marsh provides not only relatively inexpensive tertiary wastewater treatment but also waterfowl habitat.

Three important properties of wetlands plants make them ideal candidates for treating wastewater. First, their stems and leaves below the water level significantly increase the surface area on which nutrient-eating microbes can attach themselves. Second, wetlands plants transport atmospheric gases, including oxygen, down into their roots, enabling them to survive in anaerobic soils.[8] Third, wetlands convert potential pollutants such as phosphorus and nitrogen into biomass in the form of lush marsh vegetation. Conventional sewage-treatment systems are designed to mimic, in a controlled environment, some of the biological breakdown processes that occur naturally in places like wetlands.

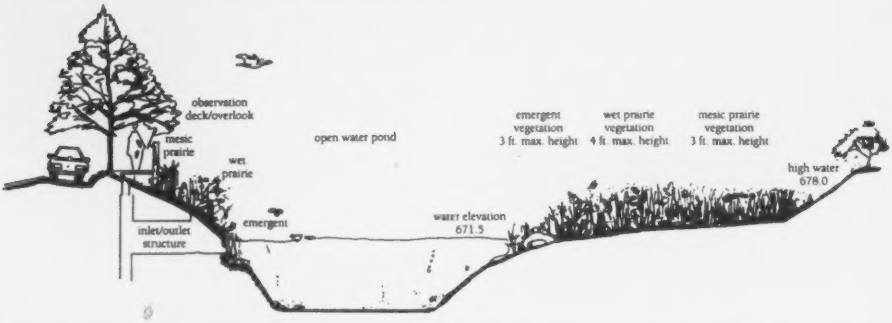
A growing number of developers have come to recognize the advantages of creating wetlands to hold stormwater runoff, either to meet mitigation requirements or as an alternative to typically stark and unattractive retention basins. In Addison, Illinois, for instance, a developer created a 6.5-acre wetland/retention basin to compensate for 5.8 acres of wetlands that were filled to construct an industrial park. The basin contains several zones of vegetation, graded from a deeper zone of open water to the driest area which contains native prairie plants. In between lies an emergent zone of wetlands plants such as tussock sedge and lake sedge (see Figure 1.4).

One of the unique features of this project, designed by Applied Ecological Services, is the biological filtration system used to trap pollutants before they enter the wetland. Generally, stormwater detention facilities and wetlands do not mix because such wetlands eventually become clogged with silt and contaminated with pollutants such as oil, grease, lead, salt, and fertilizers that stormwater runoff carries. But in this case the biological system is designed to catch the silt and pollutants before they enter the basin. The system consists of a sediment trap and, located just downstream, a biological filter "cell" comprised of a shallow wetlands area with dense, emergent vegetation that picks up excess nutrients and gives the runoff water a final polish before it enters the wetland/retention basin. Periodic burning will rid the cell of weeds and some of the contaminants and will actually create conditions favorable to native prairie plants, which have adapted to periodic burning that once occurred naturally in the Midwest.

Despite their ability to breakdown and remove pollutants, however, wetlands can tolerate only so much pollution before they show signs of strain. Suspended sediments can settle and accumulate in wetlands and permanently alter the natural plant composition. High sedimentation rates can literally bury native plants and create conditions favorable to hardier plants such as common reed, which thrives in disturbed wetlands but which supports only a limited level and diversity of wildlife. In 1987, King County, Washington, surveyed

FIGURE 1.4

CREATED WETLAND/RETENTION BASIN IN ADDISON, ILLINOIS


observation deck/overlook
mesic prairie
wet prairie
emergent
inlet/outlet structure
open water pond
water elevation 671.5
emergent vegetation 3 ft. max. height
wet prairie vegetation 4 ft. max. height
mesic prairie vegetation 3 ft. max. height
high water 678.0

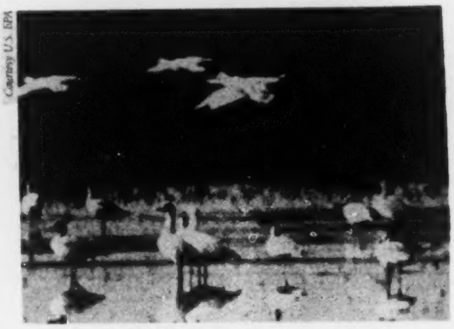
Source: Applied Ecological Services, Juda, Wisconsin.

46 wetlands that had been receiving stormwater runoff from urban areas for an extended period of time. These wetlands were compared to 27 control wetlands—that is, wetlands in undeveloped areas that were not contaminated with stormwater runoff. One of the findings of the survey was that, due to the high levels of sediment carried by stormwater and deposited in most of the 46 wetlands, reed canary grass flourished and dominated many of the affected sites, while the control sites retained their vegetative diversity. As a follow-up to this study, in 1988 King County began a five-year study of the long-term effects of stormwater runoff on wetlands. The study is funded by federal, state, and local agencies.

Wetlands control floods. Like big sponges, wetlands slow down and absorb excess water during storms, then slowly release the stored water and thus reduce peak flows downstream. By slowing the water flow, wetlands allow suspended solids, churned up and carried by floodwaters, to settle and become "subject to the whims and biological urges of bacterial fixation, decomposition, oxidation, volatilization, or uptake by plant roots."[9] Otherwise, the suspended sediments would be carried downstream where they can choke reservoirs, clog rivers, and shorten the life of flood-control basins and dams.

Wetlands do such a good job of controlling floods that they are sometimes preferred over dams. An oft-cited example is the Charles River Natural Valley Storage Project near Boston, Massachusetts, where the Corps decided that the natural wetlands along the Charles River could do a much better job of providing flood control than could a dam. The Corps realized that as the Boston metropolitan area developed and the amount of impervious surfaces increased, the amount of stormwater runoff would increase accordingly. A dam would provide only temporary, and costly, flood control, whereas the roughly 8,500 acres of wetlands would provide effective, inexpensive, natural flood control. The Charles River Project, authorized by Congress in 1974 and completed in 1984, also provides much-needed open space and wildlife habitat next to a major metropolitan area. In the Passaic River Valley in New Jersey, where wetlands that once provided natural flood control have been destroyed by development, flood control will cost an estimated $1.5 billion.[10]

Wetlands can also protect coastal and upland areas from erosion by absorbing and dissipating the impact of waves. Along erosion-prone shores, some communities



Courtesy U.S. EPA

On Assateague Island, Virginia, snow geese take a breather from their long migration south.

have established coastal wetlands to control shoreline erosion. Along the Chesapeake Bay, for example, hundreds of landowners now rely on manmade wetlands to prevent their shorelines from being undercut.

Finally, wetlands provide aesthetic and recreational amenities: fishing, hiking, swimming, hunting, and birdwatching. Millions of birds nest in wetlands each summer, or just pass through during their spring and fall migrations; when they do, someone is usually there to watch them. An estimated 50 million people are drawn to wetlands each year to observe and photograph birds.[11]

Only recently have we begun to realize the true value and functions of wetlands and the compelling reasons why they should not be filled indiscriminately. But despite efforts to protect them, many wetlands fall prey to needless disturbances that threaten to destroy their invaluable attributes forever. The problem is often one of scale and timing. Some wetlands make an easy target for development. Filling small, isolated, and seemingly insignificant wetlands may cause only minor, short-term changes in the nearby environment. Eventually, however, all those small wetlands losses begin to add up, causing widespread environmental damage: extensive loss of waterfowl habitat, reduced fish spawning grounds, and more frequent flooding.

WETLANDS LOSSES

The U.S. Fish and Wildlife Service (FWS) estimates that over 50 percent of U.S. wetlands have been destroyed during the last two centuries.[12] According to FWS, approximately 11 million acres of wetlands—an area over twice the size of New Jersey—in the 48 conterminous states were converted to other uses, such as agriculture, mining, and development, between the mid-1950s and the mid-1970s—an average annual loss of about 550,000 acres. The vast majority of the losses were due to draining and clearing of inland wetlands for farming; urban development accounted for only about 8 percent of the losses.[13]

Courtesy U.S. EPA

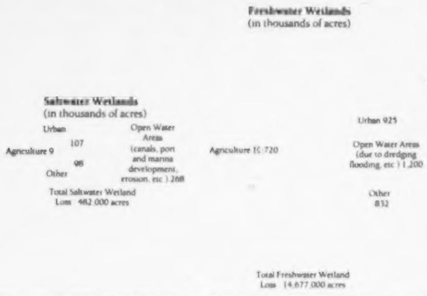
White pelicans crowd the beach in Bolivar Flats, Texas.

Courtesy Elizabeth Riddle, California Coastal Conservancy

Development encroaches on wetlands in California.

In coastal wetlands, however, urban development accounts for a much greater share of wetlands losses, particularly in New Jersey, Texas, New York, California, and Florida. In these states, urbanization is responsible for over 90 percent of coastal wetlands losses.[14] Urban development has caused almost two-thirds of Delaware's total wetlands losses.[15] California has lost over 90 percent of its original wetlands. At one time, there were an estimated 200,000 acres of coastal marshes in the San Francisco Bay Area. Today, less than 40,000 acres remain. Many were diked for agriculture or for salt ponds, while others were filled for industrial and commercial development. And the Central Valley wetlands, still the most important winter habitat for waterfowl in North America, have been reduced in acreage by an appalling 95 percent. Before World War II, an estimated 40 to 50 million ducks still wintered in California every year; now the number has dropped to 3 million or fewer. And

WETLANDS CONVERSIONS (MID-1950s TO MID-1970s)



Source: U.S. Office of Technology Assessment, *Wetlands: Their Use and Regulation* (Washington, D.C.: United States Congress, Office of Technology Assessment, 1984), p. 8.

the losses continue—primarily due to dams, diversions, and subsidized irrigation water.[16]

Louisiana loses an estimated 25,000 acres of its coastal marshes each year, mostly through natural subsidence. Historically, Louisiana's wetlands losses were offset by gains, as thousands of acres of wetlands were created each year along the Mississippi River delta. But today, due to both natural and manmade influences, the rate of wetlands losses far exceeds the rate of wetlands gains. Nationwide, the enormous wetlands losses were offset slightly by gains of about 2 million acres from pond and reservoir construction, beaver activity, and from irrigation and wetlands creation projects. On rare occasions, some beautiful wetlands were created by accident. In Anchorage, Alaska, an attractive brackish marsh, which is now part of the Anchorage Coastal Wildlife Refuge, was created in 1917 when the newly constructed Alaska Railroad impeded the normal flow of small mountain streams to the coast. The resultant 600-acre wetland, called Potter's Marsh, which was previously a tidal marsh with adjacent upland habitat, has become Anchorage's most popular place for both shorebirds and birdwatchers.

Prior to enactment of the Food Security Act of 1985 (Pub. L. 99–198, 99 Stat. 1504), federal agricultural policies encouraged farmers to convert wetlands to farmland by providing credit, loans, and commodity price supports. Farmers were encouraged to plant fence-row to fence-row, and wetlands that stood in the way, especially the prairie potholes in the Midwest and bottomland hardwood forests in the Gulf Coast states, were enthusiastically drained, plowed, and planted. The rich wetlands soils produced high yields for farmers—but at the expense of fish and wildlife habitat, flood and erosion control, and water quality. Since 1950, approximately 9 million acres of wetlands have been destroyed in order to increase agricultural production.

The so-called "swampbuster" provisions (16 U.S.C. 3801, 3821–23) of the Food Security Act of 1985, however, may arrest such destruction by removing some of the incentives to convert wetlands to farmland. The act does not prohibit conversions; farmers can still convert wetlands after they obtain a Clean Water Act Section 404 permit from the Corps, but they will be ineligible, with some exceptions, for all U.S. Department of Agriculture (USDA) benefits such as crop price supports, disaster payments, crop insurance, and Farmers Home Administration loans. Such farmers would lose benefits for all crops produced, not just those grown on converted wetlands. Since agricultural conversions represent the greatest source of wetlands losses, these provisions, if vigorously enforced by USDA, could have a tremendous impact on reducing wetlands losses. In 1989, USDA published statistics showing that over 400 farmers lost over $1 million in benefits because of penalties imposed under swampbuster. The National

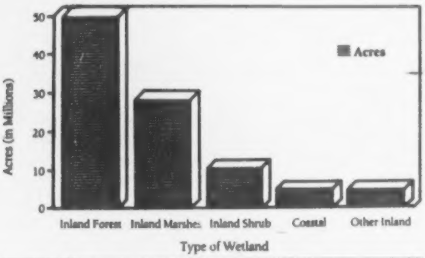
EXAMPLES OF WETLANDS LOSSES IN VARIOUS STATES

State	Original Wetlands (Acres)	Today's Wetlands (Acres)	Percent of Wetlands Lost
Iowa's Natural Marshes	2,333,000	26,470	99
California	5,000,000	450,000	91
Nebraska's Rainwater Basin	94,000	8,460	91
Mississippi Alluvial Plain	24,000,000	5,200,000	78
Michigan	11,200,000	3,200,000	71
North Dakota	5,000,000	2,000,000	60
Minnesota	18,400,000	8,700,000	53
Louisiana's Forested Wetlands	11,300,000	5,635,000	50
Connecticut's Coastal Marshes	30,000	15,000	50
North Carolina's Pocosins	2,500,000	1,503,000	40
South Dakota	2,000,000	1,300,000	35
Wisconsin	10,000,000	6,750,000	32

Source: Ralph W. Tiner, Jr., U.S. Fish and Wildlife Service, *Wetlands of the United States: Current Status and Recent Trends*, National Wetlands Inventory Project (Washington, D.C.: U.S. Department of the Interior, Fish and Wildlife Service, March 1984), p. 34.

FIGURE 1.7

EXTENT OF WETLANDS BY TYPE IN CONTERMINOUS 48 STATES



Source: Adapted from U.S. Environmental Protection Agency, *America's Wetlands: Our Vital Link Between Land and Water* (Washington, D.C.: author, February 1988), p. 6.

Wildlife Federation estimates, however, that only about 25 farmers have lost benefits and that the total amount forfeited was about $125,000.[17]

Many agricultural practices, however, such as construction or maintenance of irrigation ponds or ditches, are exempt from the Section 404 permit requirements. And it may still be economical for farmers to convert wetlands to grow crops that do not receive federal subsidies.[18]

The federal government has come a long way since it first encouraged wetlands conversion back in the mid-19th century with the Swamp Lands Acts of 1849, 1850, and 1860, which gave over 60 million acres of wetlands to 15 states for conversion to farmland. Today, the federal government operates a complex array of programs to regulate and protect wetlands. These programs often conflict and are sometimes controversial. In addition, states have taken on a greater role in wetlands regulation, adopting their own wetlands laws and, in one case, assuming administration of the federal wetlands program. The next two chapters provide an overview of the mixed bag of federal and state wetlands regulations.

Notes

1. Ralph W. Tiner, Jr., U.S. Fish and Wildlife Service, *Wetlands of the United States: Current Status and Recent Trends*, National Wetlands Inventory Project (Washington, D.C.: U.S. Department of the Interior, Fish and Wildlife Service, March 1984), p. 6.
2. See Paul H. Zedler, "California's Vernal Pools," *National Wetlands Newsletter*, May–June 1989, p. 3.
3. See the report in the *Washington Post*, November 16, 1988, p. 2.
4. See J. Scott Feierabend and John M. Zelazny, *Status Report on Our Nation's Wetlands* (Washington, D.C.: National Wildlife Federation, October 1987), p. 7.
5. See Edward Maltby, *Waterlogged Wealth: Why Waste the World's Wet Places* (London and Washington, D.C.: International Institute for Environment and Development, 1986), p. 88.
6. See Feierabend and Zelazny, *Status Report on Our Nation's Wetlands*, p. 7.
7. See Donald Hammer and Robert Bastian, "Wetland Ecosystems—Natural Water Purifiers?," unpublished report of the U.S. Environmental Protection Agency, Washington, D.C., and the Tennessee Valley Authority, Knoxville, Tennessee, 1988.
8. Hammer and Bastian, "Wetland Ecosystems," p. 6.
9. Douglass B. Richter, "Genesis and Cleansing in the Wetlands," *The New American Land Magazine*, September/October 1987, p. 27.
10. As reported in the *Washington Post*, November 16, 1988, p. 2.
11. See the booklet by the U.S Environmental Protection Agency, *America's Wetlands: Our Vital Link Between Land and Water* (Washington, D.C.: author, February 1988), p. 5.
12. Tiner, *Wetlands of the United States*, p. 29.
13. John Kosowatz, "Wetlands Establish Their Worth," *Engineering News Record*, October 1987, p. 30.
14. Tiner, *Wetlands of the United States*, pp. 31–36.
15. See Ralph W. Tiner, Jr., U.S. Fish and Wildlife Service, *Mid-Atlantic Wetlands: A Disappearing Natural Treasure*, National Wetlands Inventory Project (Newton Corner, Massachusetts: a Joint Publication of the U.S. Environmental Protection Agency and the U.S. Fish and Wildlife Service, June 1987), p. 18.
16. See Marc Reisner, "The Emerald Desert," *Greenpeace*, July/August 1989, p. 10.
17. See the *Washington Post*, December 6, 1989, p. 3.
18. The Tax Reform Act of 1986 (Pub. L. 99–514. 100 Stat. 2085) prohibits farmers from deducting, from the special agricultural expensing provision, expenses for draining or filling wetlands.

CHAPTER 2

FEDERAL WETLANDS REGULATION

> *Men with the muckrake are often indispensable to the well-being of society, but only if they know when to stop raking the muck.*
>
> Theodore Roosevelt[1]

Federal regulation of discharges into the nation's waters goes back a long way. Since the Rivers and Harbors Act was enacted in 1899, the U.S. Army Corps of Engineers has been responsible for keeping the nation's navigable waters open and flowing smoothly. Section 10 of the act prohibits dredging or discharging material in navigable waters of the United States without a permit from the Corps, whose jurisdiction includes waters that are, have been, or might be navigable for interstate commerce.

For many years, the primary thrust of the Corps' regulatory program was to maintain navigability for interstate commerce. New laws and judicial decisions in the late 1960s and 1970s, however, significantly broadened the Corps' jurisdiction from just navigable waters to *all* U.S. waters, including wetlands. The first major expansion in the Corps' role came in 1968, when, in response to growing national concern regarding protection of the environment and pressure from FWS, the Corps revised its permit review process under the Rivers and Harbors Act to include consideration of environmental values. The Corps, which was best known and equipped as a master dambuilder, canal digger, and keeper of the nation's shipping channels and harbors, suddenly was required to make decisions based on a project's impact not just on navigation, but also on fish and wildlife, pollution, ecology, aesthetics, and other factors in the general public interest. This became known as the "public interest review," in which the Corps balanced a project's reasonably foreseeable adverse impacts (habitat destruction, pollution) with its positive impacts (economic development, jobs, tax revenue).

The following year, 1969, the National Environmental Policy Act was enacted, which further expanded the scope of the Corps' public interest review. And in 1972, the Federal Water Pollution Control Act, later amended and renamed the Clean Water Act, was enacted. This act was primarily intended to begin the arduous process of making the nation's dirty waters "fishable and swimmable" again, but it has been used to stretch the Corps' jurisdiction from navigable waters to wetlands. Thus, after 70 years of administering a fairly straightforward and uncontroversial program, the Corps was now expected to balance the often conflicting objectives of environmental protection and economic development and to consider the effect of development not just on navigable waters but also on wetlands.

Various federal laws can restrict development in wetlands. But it is the Clean Water Act, and, in particular, Section 404 of the act, that has had the greatest impact on development in wetlands and that has generated most conflicts. Under Section 404, a permit is required from the Corps before dredge or fill materials can be discharged into waters of the United States, including wetlands. As construed by EPA, the Corps, and the courts, the definition of "discharge" is broad and includes filling any U.S. waters for any type of development. This chapter first briefly discusses several pertinent federal laws affecting development in wetlands and then offers a more lengthy analysis of the Clean Water Act and its implications for development.

FEDERAL LAWS AFFECTING WETLANDS

The National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.)

In December 1969, Congress passed the National Environmental Policy Act (NEPA) and ushered in what is often called "the environmental decade." The act reflected growing concern throughout the United States that unfettered economic growth was spoiling the water, air, and land on which all life depends. NEPA was enacted to reconcile conflicts between economic growth and environmental protection. It directs all federal agencies to consider the impacts of "major federal actions" on the environment. NEPA does not prohibit development in environmentally sensitive areas, but requires all federal agencies, in making decisions about federal or federally permitted projects, including private projects requiring federal permits, to consider environmental impacts of a proposed federal action. Section 102(2) of NEPA states that "all agencies of the federal government shall . . . insure that presently unquantified environmental amenities and values be given appropriate consideration in decision-making along with economic and technical considerations. . . " (NEPA 42 U.S.C. 4321–4347).

NEPA created the Council of Environmental Quality (CEQ) as an agency in the Executive Office of the President. CEQ was originally created to coordinate federal compliance with NEPA, but since Congress did not grant it authority to adopt regulations, CEQ exercised only an advisory role. In 1978, however, it was granted authority to issue regulations that provide an interpretation of NEPA and that establish uniform procedures for preparing environmental impact statements and environmental assessments.

The environmental impact statement is the heart of NEPA. Under Section 102(2)(C) of the act, federal agencies must prepare a detailed statement, known as an EIS, for "major federal actions significantly affecting the quality of the human environment." The EIS must include a statement of:

- the environmental impact of the proposed action;
- any adverse environmental effects that cannot be avoided should the proposal be implemented; and
- alternatives to the proposed action.

In practice an EIS involves extensive environmental analysis, evaluation of all reasonable and practicable alternatives to the proposed project, considerable interagency review, takes two to three years to complete at considerable expense, and is normally several inches thick. In one extreme case, an impact statement consisted of 24 volumes, each with between 300 and 500 pages. Although EISs are usually required for "major" projects only, they are triggered not just by the size of the project, but also by the value of the resources affected and the magnitude of the controversy.

An environmental assessment, rather than an EIS, is sufficient for most projects that fall under NEPA. It is usually a short document of five to 10 pages that can be completed in a few days or weeks. Like a mini-EIS, an assessment briefly describes the purpose of the project and the likely environmental impacts, offers an analysis of alternatives, and indicates whether or not the impacts will be significant. In most cases, an assessment results in what is called a Finding of No Significant Impact (FONSI), but in a few cases the impacts will be significant enough to warrant a full-blown EIS.

The EIS process can either harm or help a developer's plans. In some cases, the process can delay project approval, cost hundreds of thousands of dollars, and consume the equivalent of a small forest in paper. Or worse, after all the time and expense of preparing an EIS, a project proposal may be rejected. For highly controversial projects, the EIS can become the lightning rod for opposition. It will be discredited if it fails to anticipate and address controversial impacts and reasonable alternatives, or if it was evidently conceived merely to justify a project.

On the other hand, the EIS process can help local, state, and federal agencies to focus on environmental issues and cooperate in the analysis of real problems. In many cases it has helped project proponents channel criticism into constructive paths and useful studies. It has also improved decision-making efficiency by establishing firm schedules for organizing and analyzing data necessary under many different statutes.

CEQ regulations specify what impacts a federal agency should analyze in an EIS, such as direct and indirect effects of a proposed action, possible conflicts between federal, regional, state, and local land use plans, policies and controls, and the environmental effects of alternatives to the proposed action. A federal agency may, though, have difficulty determining the appropriate "scope" of its NEPA analysis. For example, if a developer proposes to build a large industrial complex on uplands and a service road through several acres of adjacent wetlands, it will need a 404 permit from the Corps. Should the Corps, in complying with NEPA, evaluate the environmental impacts of both the upland industrial complex and its service road through wetlands or the road only? Should it evaluate whether the adverse impacts could be reduced by constructing the entire plant at a different location?

Recently, the Corps' NEPA analysis was significantly limited. Until 1988, the Corps' NEPA policy had been to analyze the direct and indirect impacts of a project where a federal permit was required. In 1984, the Corps proposed to change its NEPA procedures in order to avoid situations in which the "federal tail wags the non-federal dog."[2] The new procedures would confine its analysis of a project's environmental impacts to that part of a project requiring a Corps permit. In the above example, for instance, since a 404 permit was required for the road but not for the industrial complex, the Corps would limit its NEPA analysis to the impacts of the road. EPA objected to the Corps' proposed changes and, in 1985, referred the matter to CEQ, which is supposed to resolve such interagency squabbles. In 1987, CEQ finally settled the longstanding dispute and largely accepted the Corps' proposed changes. In February 1988, the Corps issued rules to "clarify and streamline" its procedures for assessing the environmental impacts of projects under NEPA. The new rules significantly narrow the Corps' scope of analysis and limit the reach of federal interest in the environmental impacts of private projects, including projects in wetlands.

Section 404 permit applications are subject to the environmental impact provision of NEPA, but the Corps has estimated that less than 0.5 percent of applications cover projects that, because of their likely impacts on the environment, will require an EIS.[3]

The Clean Water Act of 1977 (33 U.S.C. Sections 1251–1376)[4]

The Clean Water Act (CWA) bolstered the continuing expansion of the Corps' role as wetlands protector. Section 404 of the act prohibits the discharge of dredge or fill material into "navigable waters," defined as "waters of the U.S.," without a permit from the Corps. The

OTHER FEDERAL LAWS AFFECTING WETLANDS

The Coastal Zone Management Act of 1972
(16 U.S.C. Sections 1451 et seq.)

Provides financial incentives for states to adopt federally approved coastal zone management programs to protect coastal resources, which include beaches, barrier islands, barrier reefs, dunes, and wetlands. Federal actions, such as offshore oil leasing, must conform with a federally approved state program. If not, the state may "veto" the federal action. This is the so-called "consistency requirement," which has been the focus of considerable debate and litigation between the states and the federal government.

Approved state programs must: 1) delineate the coastal zone boundary; 2) indicate which activities are permissible within the defined coastal zone; 3) inventory special resource areas requiring protection; 4) establish a policy framework to guide decisions about appropriate resource use and protection; and 5) include sufficient legal authority to implement the program.

About 24 of the 30 coastal states, including the Great Lake states, have federally approved coastal zone management programs.

The Endangered Species Act of 1973
(16 U.S.C. Sections 1531 et seq.)

Enacted to protect rare plants and animals, such as the California Condor, that are in danger of becoming extinct. The act requires federal agencies, in consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, to ensure that any action authorized will not jeopardize endangered or threatened species directly, nor hurt or destroy their habitat, including wetlands. It also prohibits any person from "taking" an endangered species. Taking includes hunting, trapping, harming, or harassing such species.

The National Flood Insurance Act of 1968
(42 U.S.C. Sections 4001–4128)

Provides financial incentives for communities to adopt federally approved floodplain management programs. Administered by the Federal Emergency Management Agency (FEMA), the program utilizes a financial carrot and stick to coax communities into adopting programs that will ultimately reduce the loss of lives and property from floods. For communities with approved programs, the federal government provides subsidized flood insurance to those who own property in the floodplain (the carrot). Communities that do not participate in a program to regulate future floodplain uses are ineligible for federal disaster assistance (the stick). In general, the programs apply to new and rebuilt construction in floodplains, and usually include restrictions on the type and location of development. Although not its primary focus, the program covers development in wetlands, since nearly all coastal and most inland wetlands occur in floodplains.

The Coastal Barrier Resources Act of 1982
(16 U.S.C. Sections 3501–3510)

The act restricts, and in some cases eliminates, federal subsidies for building on undeveloped coastal barriers. The act does not prohibit development on coastal barriers, but it does prohibit federal expenditures and financial assistance, such as federal flood insurance, for such development.

Fish and Wildlife Coordination Act of 1934, amended 1946, 1958, 1977 (U.S.C. 661–667e)

The act requires the Corps to consider the comments of federal and state fish and wildlife agencies, such as the U.S. Fish and Wildlife Service or the National Marine Fisheries Service, before issuing a Section 404 permit.

geographic scope of Section 404 is much broader than Section 10 of the Rivers and Harbors Act, encompassing more than just traditionally navigable waters.

Section 404 of the CWA has three main parts:

- **Section 404(a)** authorizes the Corps to issue permits for filling navigable waters, which includes wetlands. The act states that the "Secretary may issue permits, after notice and opportunity for public hearings, for the discharge of dredged or fill material into the navigable waters at specified disposal sites."[5] The act gave the Corps authority to issue permits, but no guidelines to evaluate them. So the Corps relies heavily on its public interest review (discussed on pp. 30–32) to evaluate permits.
- **Section 404(b)** requires, in essence, that the Corps issue permits in accordance with guidelines developed by EPA—the so-called "b-1 guidelines." The guidelines state that, among other things, "no discharge of dredged or fill material shall be permitted if there is a *practicable alternative* to the proposed discharge which would have less adverse impact on the aquatic ecosystem. . . ."[6] In addition, "no discharge of dredged or fill material shall be permitted which will cause or contribute to *significant degradation* of the waters of the U.S."[7]
- **Section 404(c)** authorizes EPA to veto a decision by the Corps to issue a permit to fill in a wetland. It states: "The Administrator is authorized to . . . deny or restrict the use of any defined area for specification . . . as a disposal site whenever he determines . . . that the discharge . . . will have unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas."[8]

Lesser known but still significant parts of Section 404 are subsections (e), (f), and (g).

- **Section 404(e)** authorizes the Corps to issue general permits on a state, regional, or nationwide basis for certain categories of activities in wetlands that are "similar in nature, [and] will cause only minimal adverse effect to the environment."
- **Section 404(f)** exempts certain activities from the permit requirements, such as "normal farming, silviculture, and ranching activities, . . . minor drainage, harvesting for the production of food, fiber and forest products, or upland soil and water conservation practices." Such activities, however, must be part of an established farming, silviculture, or ranching operation; otherwise, they are not exempt. For example, farmers may not drain and fill a wetland that has never been farmed without first obtaining a permit from the Corps. In one case, Cumberland Farms of Connecticut, Inc., converted a wetland to farmland and was later fined and ordered by the Corps to restore the altered wetland to its previous condition. Cumberland Farms began converting over 1,000 acres of a 2,000-acre cedar swamp to farmland in 1972. In 1984, the Corps issued a cease and desist order and required that Cumberland restore the converted wetland. Cumberland, which had not applied for a 404 permit, challenged the Corps' order. The dispute was settled in 1987 when the First Circuit Court of Appeals ruled that Cumberland Farms' activities were neither exempt from the permit requirements nor covered by a nationwide permit. The court ordered Cumberland Farms to pay a fine of $540,000 (although most of the fine will be waived when the wetland is restored) and to restore the swamp to its 1977 condition—the year in which the swamp first came under the Corps' jurisdiction (*United States* v. *Cumberland Farms of Connecticut, Inc.*, 826 F2d 1151 (1st Cir. August 1987)).
- **Section 404(g)** authorizes states to assume the permit program from the Corps (except in the case of coastal waters), provided their program is approved by EPA.

One of the more unusual aspects of Section 404 of the CWA is that, although EPA administers most federal environmental laws including the CWA, it does not administer Section 404. When Congress was drafting that section, it decided that the Corps was best suited to run the program, given its long history of protecting navigable waters and administering a permit program under the Rivers and Harbors Act. Congress was also mindful, however, that the Corps—an agency that has been dredging and filling wetlands for years—might be too prodevelopment and thus gave EPA oversight of the 404 permit program. In this forced marriage, the Corps issues permits, but it must follow guidelines set and monitored by EPA. In addition, following amendments to the Fish and Wildlife Coordination Act, the Corps must give "full consideration" to comments by the FWS and the National Marine Fisheries Service (NMFS) when reviewing permit applications. A General Accounting Office (GAO) report found, however, that although the Corps generally considers the comments from resource agencies, it frequently disregards their advice. GAO estimated that the Corps issued permits over the objections of the resource agencies in 37 percent of the 111 cases GAO reviewed.[9]

If, after considering all the comments and performing the public interest balancing act, the Corps decides to issue a permit, EPA, under Section 404(c), can still "veto" that decision if the agency finds that the proposed project will have unacceptable adverse impacts on the environment. Since the program started, the agency has issued fewer than a dozen vetoes. Probably its most famous veto was in 1986, when EPA overrode the Corps' decision to issue to The Pyramid Companies a permit to fill 32 acres of a 50-acre wetland in Attleboro, Massachusetts, for a shopping mall (see feature box on pp. 26–27). Thus, while Congress sought to balance the administrative efficiency of the Corps with the environmental protection mission of EPA, it sowed the seeds of interagency squabbling that continues today.

The Corps initially interpreted the CWA to cover only traditionally navigable waters. But, in 1975, the Natural Resources Defense Council (NRDC) challenged the Corps' narrow interpretation of the act (*NRDC* v. *Calloway*, 392 F. Supp. 685 D.D.C. 1975). The District Court for the District of Columbia agreed with NRDC's contention that the term "waters of the U.S." was to be interpreted broadly. Based on this decision, the Corps adopted new regulations in 1975 that redefined "waters of the U.S." to include navigable waters and their tributaries, interstate waters and their tributaries, nonnavigable intrastate waters whose use or misuse could affect interstate commerce, and all freshwater wetlands adjacent to other waters protected by the statute. The NRDC decision vastly expanded the geographical scope of the Section 404 program.

The Corps now defines wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR Part 328.3 (b)). Wetlands include marshes, bogs, swamps, and similar areas. This definition was upheld by unanimous ruling of the U.S. Supreme Court in 1985 (*U.S.* v. *Riverside Bayview Homes, Inc.* 106 S.Ct. 455 (1985)).

Twelve years ago, Riverside Bayview Homes, Inc., began filling several acres of its 80-acre property near Lake St. Clair in Macomb County, Michigan. The Corps issued a "cease and desist" order, which was followed by a district court preliminary injunction against further filling. The Corps claimed that Riverside Bayview needed a permit to fill because, based on the Corps' new definition, the property was classified as an adjacent wetland. Riverside Bayview argued that the presence of aquatic vegetation on its property was not due to frequent flooding by nearby navigable waters, and therefore it did not fall under the Corps' jurisdiction. The trial court upheld the Corps' jurisdictional claim, but this decision was reversed by the court of appeals. The U.S. Supreme Court, however, rejected the appeals court's claim that only wetlands that are inundated or frequently flooded by an adjacent body of water fall under the Corps' jurisdiction. In reviewing the legislative history of the CWA, the Supreme Court cited Congress's interest in protecting wetlands and noted Congress's rejection of attempts to narrow the definition of navigable waters during the debate over the 1977 CWA amendments. The Court deferred to the Corps' expertise and upheld its definition and jurisdiction over wetlands adjacent to waters of the United States.

The *Riverside Bayview* decision significantly expanded the Corps' jurisdiction over wetlands. Now wetlands do not have to be wet, connected to, or flooded by navigable waters to fall within the Corps' purview; they must only be saturated frequently enough to support wetlands vegetation and have some connection to interstate commerce. The Supreme Court required only that wetlands be hydrologically connected with navigable waters. Unfortunately, however, the Supreme Court ducked the issue of whether or not isolated wetlands—wetlands that are not adjacent or connected to waters of the United States—fall within the Corps' jurisdiction. But, chances are, if a duck lands in it, it is a wetland and is probably covered by Section 404. As long as there is some connection to interstate commerce, which the Corps is supposed to protect, then the waters fall within the Corps' jurisdiction. For the most part, it does not take much to establish such a connection. For example, if a hunter in Texas shoots a duck that bred or fed in an isolated wetland in North Dakota, that duck is considered an item of interstate commerce and the isolated wetland is regulated by the Corps.

From its very beginning in 1972, the 404 permit program has been a constant source of litigation and controversy. State and local governments often view the program as an unwarranted intrusion on local land use controls. Developers find the program overly burdensome, and the two federal regulators with primary responsibility for administering the program—EPA and the Corps—have fundamentally different interpretations of the act's purpose.

The stated purpose is to "restore and maintain the chemical, physical and biological integrity of the nation's waters."[10] The Corps has long maintained that the act directs it to protect navigation and water quality but not specifically to protect wetlands. Indeed, if one of the goals of the CWA is to protect wetlands, then Congress was rather careless when it crafted the legislation. The act contains so many loopholes and exemptions that most wetlands can be legally destroyed. For example, one can legally drain, dig ditches through, or dig large holes in a wetland without a permit, as long as none of the dirt, mud, or sand is deposited in the wetland.

EPA, in contrast, believes Congress clearly intended that the program be used to protect wetlands; if not, Congress would have explicitly stated otherwise when it amended the CWA in 1977. As a result of EPA's and

SHOOTOUT AT SWEEDENS SWAMP: THE ATTLEBORO MALL CASE

In December 1983, a shopping center developer called The Pyramid Companies bought an 82-acre tract near Interstate 95 at the southern edge of Attleboro, Massachusetts. The property contained a 50-acre red maple swamp known as Sweedens Swamp. Pyramid proposed to fill 32 acres of the swamp in order to build a $40 million, 700,000-square-foot regional shopping mall. The proposed mall would have necessitated the largest permitted fill in Massachusetts.

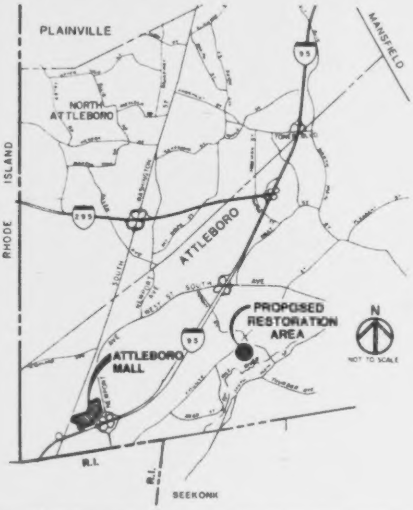
To mitigate the adverse effects of the fill, Pyramid proposed to create a 36-acre wetland out of an abandoned gravel pit a few miles off site and to excavate an additional 13 acres of wetlands and nine acres of uplands to create additional wetlands on site.

After obtaining all necessary state and local approvals, including a permit—upheld by the state supreme court—under the Massachusetts Wetlands Protection Act, Pyramid applied to the Corps for a Section 404 permit in July 1984.

EPA and other resource agencies objected to the proposed project, and the Corps' New England Division office was prepared to deny the permit on the grounds that alternative, nonwetlands sites were available. The Corps' headquarters in Washington, D.C., however, felt that the division office was interpreting the 404(b)(1) guidelines too narrowly and ordered it to issue the permit.

EPA successfully argued that Attleboro Mall should be located elsewhere to protect this red maple swamp.

LOCATION OF PROPOSED ATTLEBORO MALL

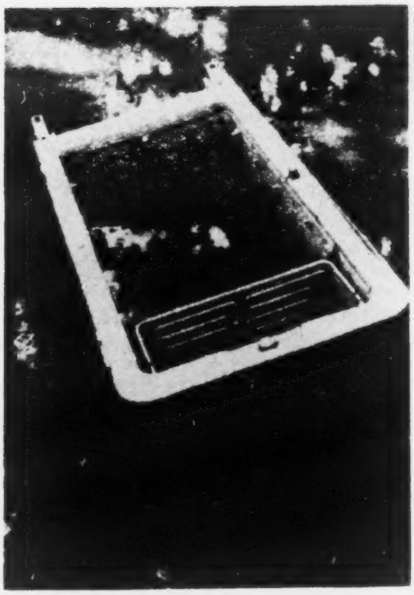


Source. Prepared by BSC Engineering, Boston, July 1985

In June 1985, the Corps issued a permit contingent upon the success of the proposed off-site mitigation, which, the Corps believed, would reduce the overall negative impacts to zero. In May 1986, however, EPA invoked its 404(c) authority and vetoed the permit, because, in its opinion, a shopping center is not water-dependent and therefore could be located in an upland area, and an alternative upland site was available to Pyramid. The agency found that the proposed mitigation was irrelevant and inappropriate since the fill was avoidable. In EPA's view, mitigation is appropriate only when wetlands losses are unavoidable.

The 404(b)(1) guidelines presume that practicable alternatives exist for nonwater-dependent activities; EPA determined that Pyramid had not overcome this presumption. Pyramid filed suit in Federal District Court to overturn EPA's veto on the grounds that there were no economically viable alternatives to the Sweedens Swamp site. Two of the key issues addressed by the court were, one, whether EPA has the authority independently to apply the practicable alternatives test of the 404(b)(1) guidelines as part of its 404(c) analysis, and, two, exactly when is an alternative site considered "available": when the developer first enters the market, as EPA contended; or when the developer applies for a permit. In October 1987, the court upheld EPA's veto and ruled that EPA does have the authority to conduct its own alternatives analysis. The court also found that there was a less environmentally damaging site (which Pyramid had earlier turned down) at the time Pyramid entered the market (*Bersani* v. *EPA*, 674 F.Supp. 405 (N.D. N.Y. 1987)).

On appeal, Pyramid challenged what it called EPA's "market entry" theory and argued that there were no prac-



Courtesy U.S. EPA

A few readily accessible areas of Sweedens Swamp near Attleboro, Massachusetts, became a popular dump site with local residents.

ticable alternative sites at the time it applied for a permit. EPA, however, asserted that Pyramid began searching for a site in the spring of 1983. The difference is crucial to the case because sometime between when Pyramid began looking for a site and when it applied for a permit, a competing developer purchased an option to buy an upland site in North Attleboro. This site was considered the only viable alternative upland site for the mall, but as such it was also a practicable alternative.

In a 2 to 1 decision, the court upheld EPA's market entry theory and held that: one, the market entry theory is consistent with both the regulatory language and past practices; two, EPA's interpretation of the statute is reasonable; and three, EPA's finding is not arbitrary and capricious. Pyramid petitioned the U.S. Supreme Court to hear the case, but in March 1989 the Court declined to review it.

The Attleboro Mall battle, which received national attention, produced some unusual alliances. On one side were groups who opposed the project: EPA, FWS, the New England district of the Corps, local and national environmental groups, and a competing developer. On the other side were The Pyramid Companies, the Washington, D.C., office of the Corps, and the city of Attleboro.

Both sides would admit that Sweedens Swamp is not a pristine wetland; it is an ordinary red maple swamp traversed by I-95, and parts of the swamp have been used as an occasional dump by local residents. But, according to EPA, despite a few alterations and abuses, the swamp provides excellent wildlife habitat, which should not be destroyed by development that can and should occur on uplands. In addition, given the uncertainties surrounding newly created wetlands, particularly manmade freshwater swamps, EPA was unwilling to swap an existing red maple swamp for a gravel pit-cum-wetland. The agency chose to take a stand on this particular wetland because it feared that this project could set a dangerous precedent of allowing nonwater-dependent development to occur in wetlands.

The Attleboro Mall decision underscored the institutional problems created by EPA's and the Corps' competing missions and divided, but poorly defined, responsibilities. For years, the two bodies have been battling over their respective roles and interpretations of Section 404 of the CWA. Their differences are often played out at the expense of the private sector, which must guess at the outcome while the agencies struggle to reach a decision. The Attleboro decision clearly illustrates the sometimes unpredictable, time-consuming, and litigious nature of the 404 process. The case, however, also served to endorse EPA's broad authority not only to second guess a permit applicant's selection of a development site, but also to oversee and, if necessary, to veto a Corps permit. The agency can confidently assert its authority to reevaluate the Corps' alternatives test to ensure that the Corps strictly adhered to the 404(b)(1) guidelines.

Unfortunately, the case did not give developers clear guidance on exactly when they must consider practicable alternatives or how extensively they must search to find an alternative site: five miles, 50 miles, 100 miles? In his dissent, Judge Pratt stated that the market entry theory will "inject exquisite vagueness" into the permitting process. For example, when does a developer enter the market? When it first contemplates a development in the area? When it first instructs its staff to research possible sites? When it contacts a real estate broker? Or when it makes its first offer to purchase? Without answers to such questions, developers can never be certain exactly when the clock starts. But developers can be sure of one thing: from now on, it will be much harder to get a permit to fill wetlands for nonwater-dependent uses.

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Despite laws to protect them, thousands of acres of wetlands succumb to residential development each year.

the Corps' inconsistent interpretations, developers are often caught in the crossfire of policy battles between the two agencies.

Through a series of court cases and regulatory changes, more so than through congressional action, Section 404 has evolved from a water-quality statute to a wetlands protection statute. Similarly, the Corps has evolved from a staunch protector of navigable waters to a reluctant wetlands protector. Recently, the Corps has shown greater willingness to assert its authority to protect the nation's wetlands, and both EPA and the Corps are beginning to work together on a number of fronts. For example, they recently reached an agreement on a mitigation policy and have been evaluating alternatives to the case-by-case permitting process. In addition, in 1989, EPA and the Corps, along with FWS and the Soil Conservation Service, developed a joint manual for delineating wetlands in the field.

Prior to adoption of the joint manual, the four agencies each had their own method of delineating wetlands. In general, the Corps was conservative in its delineations, FWS was very liberal and typically included some wet places that the Corps would not, and both EPA and the Soil Conservation Service fell somewhere in between. (EPA and the Corps utilized separate delineation manuals, although they had adopted a single definition of wetlands.) Moreover, considerable variation occurred within the agencies themselves in delineating wetlands. Understandably, the different wetlands definitions and manuals led to confusion in the regulated community.

The joint manual relies on three criteria to delineate wetlands: hydrophytic vegetation, hydric soils, and wetlands hydrology. It reflects a compromise among the agencies and should clear up any confusion by providing a single, consistent approach for identifying and delineating wetlands. Nonetheless, the manual has brought some painful groans from the development community who claim that the new approach slightly expands the Corps' jurisdiction into some lands not previously considered wetlands. Indeed, a Maryland developer has sued EPA and the Corps on the grounds that the manual is actually a rule implemented by the agencies without complying with the Administrative Procedure Act (see *Mulberry Hill Development Corporation v. U.S.*, Civil Action No. PN89-2639).

PERMITTING UNDER SECTION 404 OF THE CLEAN WATER ACT

> "We are getting to the point of adopting a Nancy Reagan approach to wetland fills: 'just say no'."
>
> *Official at EPA Region X*

Just about everyone who proposes to fill in a wetland must first apply for a permit from one of the Corps' 36 district offices. Applying for a permit from the Corps is not something anyone looks forward to. It's a bit like going to the dentist: at the very least it will be uncomfortable, at worst it will cause agony at great expense. For small, noncontroversial projects, the process is fairly straightforward and will, under normal circumstances, take only a few months to complete. For larger, more complex projects, however, getting a permit can be a long, arduous process.

Not all activities in wetlands require a 404 permit and some require only a "general permit"--a kind of generic permit that grants blanket authorization for certain types of fill in certain size wetlands. The Corps may issue general permits on a state, regional, or national basis for activities that are similar in nature and will cause only minimal individual and cumulative adverse impacts. For example, discharges for bridge construction, backfill for utility lines, surveying, and minor road crossings usually qualify for a general permit. General permits issued nationwide are called, appropriately enough, "nationwide permits." The nationwide permit most often used for development is nationwide permit number 26, which applies to certain isolated wetlands and wetlands above a nontidal river or stream with an average annual flow of five cubic feet per second or less. Nationwide permit number 26 is usually issued automatically for wetlands fills of one acre or less, while those who want to fill between one and 10 acres must first notify the Corps. For controversial projects, the district engineer may require an individual permit instead. General permits, which are issued for five-year periods, apply only in states that certify that the activities authorized by such permits comply with state water-quality requirements. Some states, such as New Jersey, do not recognize such permits.

The Corps receives about 14,000 applications for individual dredge and fill permits each year. Of these, about 10,000 are granted, usually with conditions to reduce environmental impacts. Only about 500 are denied. The rest are either withdrawn or are covered by general permits. Most applications are fairly routine, and relatively few projects stir up enough controversy to make the headlines.

The permit process consists of three basic steps: preapplication consultation; formal project review; and decision making. All three usually occur at one of the Corps' many district offices. The steps are described below and are shown graphically in Figure 2.1.

Preapplication Consultation

The preapplication consultation is an informal meeting between a district office of the Corps and the applicant to discuss the permit requirements, identify potential problem areas, and to determine, on a preliminary basis, whether an EIS will be required. In this frank and open consultation, the Corps advises the applicant of the factors that the Corps must consider under the CWA Section 404(b)(1) guidelines and in its public interest review. The Corps may determine that only a general permit is required, or, occasionally, that a permit is not needed—for example, if the project is not in U.S. waters.

The consultation is optional and is recommended only for large or potentially controversial projects. Besides the Corps, other federal agencies, state agencies, and local affected groups sometimes participate in the consultation. This enables such agencies or groups to air their concerns upfront, and will give an applicant an opportunity to address them early in the permitting process, rather than later when the stakes are higher. Most applicants do not bother with a preapplication consultation. In fact, the district offices of the Corps are often so swamped with applications that they do not have time for consultations, and the applicant must submit a "blind" application. A consultant in Oregon complained that the Corps will no longer meet with developers until it has received a formal application.

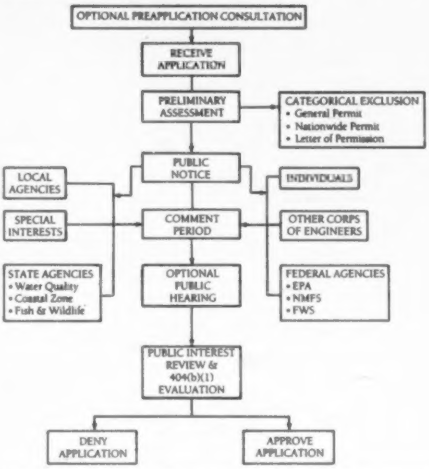
Formal Project Review

Applications must include, among other things:

- a detailed description of the proposed project, including maps, drawings, and sketches that can be used for a public notice;
- the purpose of the project;
- scheduling of construction; and
- the type of discharge, (sand, gravel, dirt, etc.).

FIGURE 2.1

THE U.S. ARMY CORPS OF ENGINEERS' PERMITTING PROCESS


OPTIONAL PREAPPLICATION CONSULTATION
RECEIVE APPLICATION
PRELIMINARY ASSESSMENT
CATEGORICAL EXCLUSION
• General Permit
• Nationwide Permit
• Letter of Permission
PUBLIC NOTICE
LOCAL AGENCIES
INDIVIDUALS
SPECIAL INTERESTS
COMMENT PERIOD
OTHER CORPS OF ENGINEERS
STATE AGENCIES
• Water Quality
• Coastal Zone
• Fish & Wildlife
OPTIONAL PUBLIC HEARING
FEDERAL AGENCIES
• EPA
• NMFS
• FWS
PUBLIC INTEREST REVIEW & 404(b)(1) EVALUATION
DENY APPLICATION
APPROVE APPLICATION

Source: Adapted from U.S. Army Corps of Engineers.

Incomplete applications will be returned, often delaying the process for several weeks.

Within 15 days after the Corps receives a completed application, the district engineer issues a public notice. The notice is sent to EPA, FWS, NMFS, state and local agencies, special interest groups, and other interested agencies, organizations, and individuals. After the public notice is issued, the Corps usually allows 15 to 30 days, depending on the nature of the activity, for public comments. The Corps' goal is to reach a decision within 60 days after the public notice is issued, but it normally takes closer to a year for controversial projects.

When reviewing a 404 permit application, the district engineer must, as required by NEPA, determine whether an EIS or only an environmental assessment is needed. EISs are rare for Section 404 projects—the Corps requires only about 15 per year. Whether or not an EIS is required, certain applications may involve additional interagency or intergovernmental consultations. For example, the Corps may consult with federal and state agencies to ensure that the proposed project is consistent with a state coastal zone management program, the Endangered Species Act, or the National Historic Pres-

HOW THE SECTION 404 PERMIT PROCESS CAN SHAPE DEVELOPMENT: THE PRUDENTIAL BUSINESS PARK

In northern New Jersey, not far from New York City, lies, a 367-acre wooded site that will soon be the home of the Prudential Business Park. The site contains about 230 acres of forested wetlands and is considered one of the last remnants of an extensive forested wetland that once occupied the area. It is also one of the last remaining large natural areas in that part of the state (Parsippany Troy Hills and Hanover Township), which is why so many people fought to preserve it.

The site is encircled by development: a residential area on the north, I-287 on the east, route 10 on the south, and the existing Prudential Business Campus on the west. Prudential plans on building 2.2 million square feet of commercial office space in a campuslike environment. Only about 16 acres of wetlands will be filled. In exchange, Prudential will leave most of the site open and restore a degraded wetland off site.

Prudential's initial proposal, made in 1982, called for constructing over 4.5 million square feet of office space on 250 acres and would have eliminated over 100 acres of wetlands. The proposal drew immediate criticism from EPA, FWS, environmental groups, and the New Jersey Department of Environmental Protection (DEP), who argued that the proposed project is not water dependent. In response, Prudential reluctantly whittled the project down, first to 3.5 million square feet and ultimately to 2.2 million square feet, and reduced the area to be filled from about 100 to only 16.6 acres. Several revisions and about four years later, Prudential finally obtained its 404 permit in February 1988 and began construction that fall. The project should be completed in about seven to nine years.

Touch and Go Permitting

After a relatively smooth start, the permit process turned into a tortuous struggle. Prudential approached the Corps in 1981 to determine if what was then only a 200-acre parcel fell within the Corps' jurisdiction. The Corps' New York district office initially found that the project would have a minimal impact on the aquatic environment and therefore would be covered by a nationwide permit. But after Prudential purchased an additional 167 acres contiguous to the 200-acre parcel, the Corps decided that an individual permit would be required instead. The Corps reasoned that, while the original 200 acres was primarily forested upland and forested wetland, the extra 167 acres contained mostly wetlands, and thereby significantly increased the impact of Prudential's project on the aquatic environment.

Prudential, which had already invested about $8 million in the project, challenged the Corps' authority to rescind its nationwide permit and also questioned whether the Corps had jurisdiction over the wetlands in the first place, since the wetlands were "artificial" and existed only because a water impoundment had been constructed downstream in the 1940s. In July 1984, the Corps reaffirmed its requirement that Prudential obtain an individual permit for their project. Brushing aside Prudential's challenges, the Corps stated that its jurisdiction is based on current conditions, and not on whether a particular wetland is natural or manmade. In a number of cases, the courts have upheld the Corps' jurisdiction over artificial wetlands. For example, in one case, the plaintiff contended that the wetlands on his property were created by construction of a dam and therefore did not fall within the Corps' jurisdiction. The court held that the Corps' jurisdiction is based on the current state of a site, not its history; the origin of the wetland was irrelevant. (See *Bailey* v. *United States*, 647 F.Supp 44 (D. Idaho 1986); see also *Track 12, Inc.* v. *District Engineer*, 618 F.Supp. 448 (D. Minn. 1985).)

New Jersey's response to Prudential's original proposal was, according to a DEP official, that "the project is no good as it stands." The state laid down a number of conditions that Prudential had to satisfy in order to obtain a water-quality certification. The state maintained a steadfast approach to Prudential, and, in the end, the company met virtually all of the state's demands.

ervation Act, before it will issue a permit. States may veto a Corps permit if the state determines that the project will be inconsistent with its coastal zone management program or violate its water-quality standards under Section 401 of the CWA.

Decision Making

After a public notice has been issued, an environmental assessment or EIS has been completed, and the project has been determined to be consistent with state laws, the district engineer will decide if a permit should be issued. This decision will be based on two factors: the public interest review, and the CWA Section 404(b)(1) guidelines. The two procedures are usually performed simultaneously, and the Corps may require some mitigation to meet the requirements of either test.

When the Corps conducts its public interest review, it weighs a project's likely impacts on a wide variety of factors: aesthetics, navigation, cultural values, environmental values, economics, water quality, fish and wildlife values, safety, conservation, and so on. If, on balance, the impacts are negative, then the Corps may deny the permit, require that the applicant modify the design, or

Generous Mitigation

After several revisions, each reducing the project size and the extent of the wetland fill, the final design concentrates most of the project on the upland portion of the site and leaves the majority of the site open and undisturbed. Of the site's 232 acres of wetlands, only 16.6 will be filled—about 10.5 acres for roads, and only about six acres for the buildings. The remaining wetlands, about 215 acres, will be incorporated into a conservation easement and preserved in perpetuity.

In addition to the 16.6 acres, 22 acres will be excavated to control floods and maintain water quality. This area will be graded, planted as wetlands, and included in the conservation easement. Prudential will also construct gabion walls at several locations to detain rainfall on the upland portions of the site and protect the wetlands from stormwater contamination.

In an attempt to prove that wetlands creation was a viable mitigation option, Prudential voluntarily created a seven-acre emergent marsh out of upland within a road access loop just east of I-287. Prudential needed fill dirt for the ramps and decided to create a marsh out of the hole that was left by the excavation. The company planted pickerelweed, arrowhead, wild rice, and other emergents. According to one of the consultants who worked on the project, the marsh is doing reasonably well. EPA, however, is not impressed. It believes that highway runoff will eventually contaminate and destroy the marsh. According to one EPA official, the marsh is just "a hole in the middle of a highway loop."

Prudential also agreed to purchase a 100-acre parcel of land about five miles away and adjacent to the Great Swamp National Wildlife Refuge. The project's nonwater dependency allowed state regulators to raise significantly the mitigation ante. Prudential was not required by the Corps to purchase the Great Swamp site, but it was strongly urged by the state to make additional concessions. The land contains a mix of forested wetlands and pasture. Most of the pasture was originally wetlands that were cleared and drained years ago. The existing, marginal drainage system will be removed to allow the pasture to revert back to forested wetlands through natural succession. To speed up the process, Prudential will plant wetlands trees and shrubs. Prudential donated the 100-acre site to the New Jersey Natural Lands Trust—a state-sponsored conservancy.

As part of the permit requirements, Prudential must ensure that the mitigation will be at least 80 percent successful—that is, at least 80 percent of the plants in the created or enhanced wetlands must survive for five years; if more than 20 percent die, Prudential must replant and do whatever else is necessary to ensure the continued well-being of the wetland for at least five years.

The mitigation is estimated to cost about $5 million, including $1.8 million for the 100-acre tract near the Great Swamp. Prudential will also spend another $25 million for off-site road improvements.

All in all, the regulators certainly got a good deal. Prudential pared down the amount of fill involved, preserved over 215 acres of wetlands on site and another 67 (from the 100-acre site) acres off site, and achieved an overall ratio of wetlands preserved to wetlands filled of about 17:1. EPA, DEP, and the Corps were all satisfied that the proposed mitigation adequately compensated for the wetland fill. According to one EPA official, the 100-acre wetland "donation" is certainly "better than creating a wetland out of a cornfield."[1] It was not a pretty process, and the project has a long way to go before it is complete, but it illustrates what can be done to avoid or minimize the adverse impacts of developing in wetlands, and how the permit process can substantially alter development plans.

Note:

1. Personal conversation on August 18, 1988, with Dan Motella of the U.S. Environmental Protection Agency, Region II, New York, New York.

require mitigation. If positive, then the Corps may grant a permit (providing that the project also complies with the 404(b)(1) guidelines). Until 1982, an applicant had to demonstrate that the project would be "in the public interest" in order to qualify for a permit. In 1982, the Corps decided that as long as a project was "not contrary to the public interest"—an easier standard to meet—a permit could be issued.

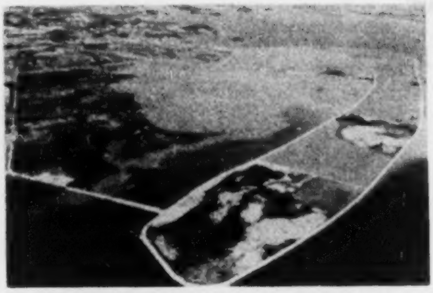
The 404(b)(1) guidelines were developed by EPA in conjunction with the Corps. By law, the Corps must follow these guidelines when reviewing permit applications, and it must deny a permit for any proposal that fails to comply with them. The guidelines state, in part, that the Corps should not grant a permit:

- if there is a practicable alternative that would have less adverse impact on the aquatic ecosystem;
- if the project will cause or contribute to significant degradation of the waters of the United States; and
- unless appropriate and practicable steps have been taken that will minimize potential adverse impacts on the aquatic ecosystem.

The practicable alternatives test is the heart of the guidelines. It establishes two presumptions that must be overcome by the applicant: one, that an alternative, nonwetland site is available for nonwater-dependent activities; and, two, that activities in nonwetlands areas will have less adverse environmental impact than activities in wetlands.[11] That is, unlike marinas, developments such as malls, condominiums, and office buildings do not have to be near the water, so the Corps should deny a permit for these types of activities if they involve filling wetlands. The practical alternatives test and the water dependency requirement have been called the Scylla and Charybdis of the permitting process.

One of the goals of the public interest review is to ensure that certain projects that provide public benefits, such as jobs or housing, will not be rejected out of hand because of their adverse environmental impacts. At the same time, the guidelines ensure that less environmentally damaging sites will be considered and that adverse impacts will be minimized. Unfortunately, however, both the public interest review and the guidelines are subjective tests with imprecise standards—a combination that spells trouble. In the guidelines in particular, two phrases frequently cause problems: "practicable alternative" and "significant degradation." These phrases are akin to the vague environmental standards found in NEPA, such as "to the fullest extent possible" and "major federal action." EPA defines practicable as "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes."[12] Significant degradation includes "significantly adverse effects of the discharge . . . on human health or welfare, . . . life stages of aquatic life, . . . [and] aquatic ecosystem diversity, productivity, and stability."[13] Of course, what EPA considers practicable or significant may conflict with an applicant's or the Corps' interpretation; and it can take months or years to settle such differences.

Even after the Corps considers all the comments, conducts its public interest review, determines that the project complies with the guidelines, and decides to issue a permit, the applicant is still not out of the woods. EPA may object if it determines that the project will have an unacceptable impact on the environment. In addition, both the Corps and EPA may agree that a proposed project should include some sort of mitigation, but they may differ on the type or extent of mitigation.



Mary Landis, U.S. Army Corps of Engineers

Aerial photo of Point Mouillee in 1984, looking north towards Detroit. The south end of the confined disposal facility or "island" is nearly filled.

THE MITIGATION DILEMMA

When it comes to mitigation, the Corps, on one hand, and EPA, FWS, and NMFS on the other, often have very different policies. In general, EPA strives to maintain the chemical and biological integrity of U.S. waters; FWS and NMFS aim to protect fish and wildlife habitat; and the Corps seeks to balance competing interests. All, however, have adopted the CEQ definition of mitigation, which states that mitigation includes: a) avoiding the impact altogether by not taking a certain action; b) minimizing impacts by limiting the degree of the action; c) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; d) reducing or eliminating the impact over time by preservation and maintenance operations; and e) compensating for the impact by replacing or providing substitute resources.[14] In short, avoid what you can, minimize where possible, and after that, compensate for the damage done.

EPA, FWS, and NMFS have long been at odds with the Corps over the interpretation of the CEQ definition of mitigation. Unlike the Corps, the three agencies have always asserted that the five elements of mitigation, as defined by CEQ, should be followed step by step. In other words, when considering the appropriate mitigation for a proposed project, the first step should be to avoid the impact altogether—for example, by selecting an alternative, nonwetland, site. After avoidance, the next step should be to minimize the impacts and so on. Only after the first four steps have been exhausted would compensation be allowed.

The Corps, in contrast, has long held that it did not have to follow the CEQ definition in sequence and allowed compensation as the first mitigation measure. It argued that mitigation, in any sequence, could reduce the negative impacts of a project and tip the scale in favor of granting a permit.

In November 1989, EPA and the Corps reached a landmark agreement that, in essence, states that the Corps, when reviewing 404 permit applications, will follow the CEQ mitigation steps in sequence and will strive to achieve EPA's cherished goal of no net loss of wetlands. In December, however, the White House postponed plans to implement the interagency agreement in response to strong opposition from the oil industry and state officials from Alaska who feared that the agreement would have disastrous consequences for oil development along Alaska's North Slope.

One of the reasons for the Corps' proclivity to allow mitigation "out of sequence" is that the Corps itself has been dredging, filling, and creating wetlands for years. During the last 15 years, the Corps has spent over $12 million on wetlands research and has led the nation in developing wetlands habitat.[15] It has built, sometimes inadvertently, more than 100 wetlands and 2,000 islands near U.S. waterways as part of its never-ending dredging of rivers and harbors. One of the largest freshwater wetlands construction efforts ever undertaken is being conducted by the Corps at Point Mouillee Marsh, along the shores of Lake Erie, just below the mouth of the Detroit River. Historically, the approximately 2,600-acre marsh was protected by a barrier beach. But over the past 50 years, unusually high lake levels gradually eroded the beach and exposed the marsh to the destructive forces of Lake Erie. In order to protect the waning marsh from further erosion and to find a final resting place for the dredge spoils from the Detroit and Rouge Rivers, the Corps fabricated a barrier beach along the length of the marsh. The banana-shaped, make-shift beach is about 3.5 miles long and about 1,400 feet wide. It has allowed animal and plant denizens of the marsh to recolonize previously washed-out areas.

One of the Corps' most successful wetlands creation projects is Galliard Island in the lower Mobile Bay in Alabama. The island was built between 1980 and 1981 from material dredged to maintain the bay's shipping channels. The triangular, 1,300-acre island provides both upland and wetlands habitats, and contains a shallow, 700-acre pond. Three broad, gently sloping dikes, maintained by the Corps, protect the pond from erosion. Wind and wave erosion constantly batter all sides; but a combination of stone armoring and salt marsh plantings protects its shoreline. In 1981, the Corps planted cordgrass in the intertidal zone along the northwest and south dikes. It also installed erosion-control mats and low-cost, temporary breakwaters consisting of floating and fixed tires to protect the newly planted seedlings.

Mary Landin, U.S. Army Corps of Engineers

View of wetlands inside Point Mouillee.

Mary Landin, U.S. Army Corps of Engineers

Culverts at the south and north ends of the confined disposal facility at Point Mouillee slow down water flow and trap sediments that re-form and nourish the growing marsh.

The island was quickly discovered by shorebirds from the Alabama mainland. In 1981, an estimated 4,000 laughing gulls, black skimmers, and terns were nesting on the island. Since 1984, over 16,000 shorebirds have nested there each year.[16]

The Corps is involved in hundreds of other marsh creation/restoration efforts around the country, with varying degrees of success, as it seeks creative, productive uses for the bargeloads of muck it dredges from the nation's rivers and harbors each year. Based on its experience, the Corps believes that properly designed and constructed artificial wetlands can provide the same values and functions as natural wetlands. But EPA, FWS, and NMFS disagree.

As part of their permit review process, the district and regional offices of the Corps and EPA meet regularly and make ad hoc decisions on specific projects. According to Doug Ehorn, EPA's deputy chief of the Water Quality Branch in Region V, 99.5 percent of all cases are handled routinely with no problems. The few problems that do arise usually concern the amount of mitigation that should be required. In those few cases where EPA and the Corps are at loggerheads, the permit decisions are occasionally elevated from the district to the division engineer, and, if necessary, to the Corps headquarters in Washington, D.C.

Each regional office of EPA and each district office of the Corps operates independently, although general policy is established at their respective headquarters in

Washington, D.C. No two regional or district offices are alike; permit applicants will not get exactly the same response from any two offices. In some regions, EPA and the Corps have a very good working relationship, and they resolve most of their conflicts amicably. In others, like a bad marriage, the relationship is strained, and the two grind out permit reviews with minimal cooperation and communication. In Southern California, for example, EPA and the Corps reportedly seldom speak to one another. Occasionally, philosophical differences or personality clashes between EPA and Corps officials tie the permit process up in knots. Applicants—who cannot legally proceed with the project until a permit is obtained—are left in never-never land while the agencies try to work out their differences.

Applicants who are denied a permit by the Corps or via an EPA veto of a Corps permit, have essentially four choices: withdraw their application; modify the project and reapply; proceed with their project without a permit and hope they do not get caught; or sue the Corps or EPA. In EPA Region V, for example, about one-third of the applicants who are denied permits withdraw their application, about one-third modify their proposal and reapply, and the remainder are split almost equally between those who proceed without a permit and those who sue.[17]

Enforcement

Both EPA and the Corps have authority to seek criminal, civil, or administrative remedies for unauthorized activities in wetlands. The Corps focuses its enforcement efforts on violations of both Section 10 and Section 404 permits, while EPA, which was given independent enforcement authority under the CWA of 1977, focuses on unauthorized discharges. Enforcement by both agencies, however, has been lax. The agencies simply do not have the resources for a vigorous monitoring and enforcement program. Penalties for unauthorized activities can be as high as $25,000 per day of violation, or imprisonment for up to one year, or both. But agencies seldom pursue civil or criminal actions against violators, even for egregious violations. A recent study by GAO on the number of civil or criminal actions taken by five Corps district offices found that only six civil and no criminal actions were pursued by the Corps over the three-year period from 1984 to 1986. The report found that the Corps devotes most of its time to processing permits, so monitoring and enforcement receive a low priority.[18] Thus, many unauthorized activities go undetected.

Typically, when the Corps discovers a permit violation or an illegal fill, it attempts to negotiate a settlement to remedy or rectify the problem. It prefers administrative to legal remedies because of the time and money saved. Until recently, it often issued an "after-the-fact" permit, which essentially gave the violator a permit to do what it had already done, and usually required mitigation of some of the damage done to the environment. But, in January 1989, EPA and the Corps signed a Memorandum of Agreement (MOA) establishing new policies and procedures for handling violations. The MOA states that EPA will be the lead agency for cases involving repeat violators and flagrant violations, for cases requested by EPA and for cases when the Corps recommends that EPA issue administrative penalties. For all other cases where wetlands are filled without a permit, or for violations of permit conditions, the Corps will be the lead enforcement agency. The MOA will also make it harder for the Corps to issue after-the-fact permits, which will not be issued until all administrative, legal, and/or corrective actions have been completed.

Following enactment of the Water Quality Act of 1987 (WQA), EPA and the Corps are no longer the toothless enforcers they once were. The act has given them a set of sharp, new teeth for enforcement. EPA, especially, is getting tough on those who play fast and loose with federal wetlands laws, and a number of unfortunate developers have already felt the agencies' bite. Now, EPA and the Corps can issue penalties more readily.

The WQA established two classes of penalties for illegally filling wetlands: class I for minor violations and class II for major violations. Class I penalties can range as high as $10,000 per violation, up to a maximum of $25,000; class II penalties can reach $10,000 per day, up to a maximum of $125,000. The amount of the penalty depends on a number of factors, such as the nature, circumstances, extent, and gravity of the violation; history of violations; knowledge of the permit requirements at the time of the violation; and economic savings or benefits as a result of the violation. As of mid-1989, EPA had already issued fines ranging from $15,000 to $125,000. And in January 1990, the U.S. Current Court of Appeals upheld the strictest penalty ever meted out to a developer who illegally filled wetlands: three years in jail and a $202,000 fine.

THE TAKINGS ISSUE: WETLANDS PROTECTION VERSUS PROPERTY RIGHTS

A number of developers who have been denied 404 permits from the Corps have sought relief from the courts, claiming that denial of a permit constitutes a taking because it restricts the profitable use of private property, even though the government does not actually take possession. With few exceptions, however, these developers have been unsuccessful. Most state and federal courts have held that denial of a permit or the imposition of permit requirements for development in wetlands does not constitute a taking as long as it does not eliminate all economic use of the property.

The Fifth Amendment of the U.S. Constitution prohibits the government from taking property without just compensation. Government may take property under its police power or eminent domain, but it must pay for it. Government may also, however, limit the use of property through regulation without actually taking possession. If such limitations go too far, they may effect a taking. Until recently, the remedy for takings was for the government to amend or withdraw the offending regulation or exercise its eminent domain powers. But in a landmark ruling in 1987, the U.S. Supreme Court held that if a land use regulation gives rise to a taking, even if only temporarily, the remedy is just compensation (*First English Evangelical Lutheran Church v. Los Angeles County*, 107 S.Ct. 2378 (1987

One of the first wetlands cases to address a takings claim was *Morris Land Improvement Co. v. Township of Parsippany-Troy Hills* (193 A.2d 232 (N.J. 1963)). In this New Jersey case, the court applied the so-called harm/benefit theory and held that a municipal ordinance that restrictively zoned a privately owned wetland amounted to a taking. Under this theory, land may be regulated to prevent a public harm, but not to confer a public benefit; otherwise it is a taking. For example, a land use regulation prohibiting industrial uses in residential districts prevents a harm because it prevents the industrial uses from harming a residential neighborhood. By contrast, a land use regulation requiring preservation of historic landmarks confers a public benefit.[19] The New Jersey court held that the purpose of the ordinance was to promote a public benefit (flood protection) rather than to prevent a public harm, and was therefore a taking of property without compensation.

The *Morris Land* decision, however, was later substantially qualified in New Jersey. Furthermore, in 1972, a Wisconsin Supreme Court decision, *Just v. Marinette County* (201 N.W. 2d 761 (Wis. 1972)), stood the harm/benefit rule on its head. The *Just* case centered upon a Wisconsin statute that required all counties to adopt a state-approved shoreland zoning ordinance. Marinette County's ordinance required a permit to fill wetlands that were located within a certain distance from navigable waters. The Just family, who owned property within the defined shoreland, claimed that the ordinance constituted a taking since it diminished the economic value of their land. The Wisconsin Supreme Court rejected Just's claim and found that the ordinance was a reasonable exercise of the police power to prevent harm to environmental resources. According to the court, the ordinance did not improve the public condition but only preserved the natural environment from being destroyed by unregulated activities. Therefore, no taking occurred.

In a landmark takings case, *Penn Central Transportation v. New York City* (438 U.S. 104 (1978)), the U.S. Supreme Court rejected the harm/benefit rule and adopted a "whole parcel" rule for taking cases. In *Penn Central*, the Court upheld a historic landmark designation of Grand Central Station in New York City and so prevented Penn Central from constructing a high-rise office building in the air space above the terminal.

Penn Central argued that although it could receive a reasonable return from the terminal alone, the landmark designation was a taking because it prevented the company from developing the air space above the station. In deciding whether or not a taking had occurred, the Supreme Court refused to separate the air rights from the terminal beneath and looked instead at the property as a whole. The Court accepted that the landmark designation imposed a severe restriction on Penn Central's use of its property, but refused to accept that it was therefore a taking. The Court noted that the designation benefited all citizens of New York City by "improving the quality of life of the city as a whole." And although the Court agreed that Penn Central was forced to shoulder the entire burden of the designation, the Court reasoned that, as a member of the community, Penn Central also received benefits from the designation.

The Supreme Court's refusal to split the property into discrete parcels and then decide if limitations on a particular parcel constitute a taking has significant implications for wetlands law. Many wetlands regulations restrict development in wetlands but allow development on the upland portion of a site. Under the "whole parcel" rule, such regulations will not be considered a taking if the property owner is left with some viable economic use for the remaining portion of the property.

Applying this rule in *Deltona Corporation v. U.S.* (657 F.2d 1184 (Ct.Cl. 1981)), the U.S. Court of Claims held that denial of a Section 404 permit for development on two of Deltona's five tracts of land in Florida was not a taking since Deltona could still develop the other three tracts. In *Deltona*, the court also applied a two-part takings test first adopted in *Agins v. City of Tiburon* (447 U.S. 255 (1980)) and later by the U.S. Supreme Court in *Keystone Bituminous Coal Association v. DeBenedictis* (108 S.Ct. 1232 (1987)). Under this test, a taking occurs if a regulation does not substantially advance a legitimate governmental interest or if a regulator leaves the landowner with no economically viable use of the property.

In 1964 and 1969, Deltona applied for and received permits to develop a residential community on two of five tracts of land it owned along the Gulf Coast of Florida. By the time Deltona applied for permits for the remaining three tracts in 1973, the Corps' jurisdiction had expanded considerably and the requirements for obtaining a permit were more stringent. As a result, the Corps granted Deltona a permit for only one of its three remaining tracts and denied permits for the other two. Deltona sued in the U.S. Court of Claims on the grounds that the Corps' permit denial constituted a taking. In striking down Deltona's claim, the claims court found that the Corps' regulations substantially advanced legitimate and important governmental interests and did not deprive Deltona of all economically viable use of its property. The court noted that for the two tracts on which a permit was denied, Deltona still had over 111 acres of uplands it could develop without a permit from the Corps.

The *Keystone* case confirmed the "whole parcel" rule. In that case, a Pennsylvania antisubsidence law placed restrictions on coal mining underneath houses and other buildings. A group of coal companies sued and claimed that the law "took" the coal that they would be required to leave in the ground. The Supreme Court, however, held that the law was enacted to restrict land uses that were "tantamount to [a] public nuisance." As in the *Penn Central* case, the *Keystone* Court looked at the entire parcel of land—all the coal companies' mines and not just the coal that would have to be left in the ground because of the regulation—and held that the law did not interfere with the coal companies' "investment-backed expectations."

By contrast to *Deltona*, another U.S. Court of Claims case has reached the opposite result. In *Florida Rock Industry, Inc. v. U.S.* (8 Cl.Ct. 160 (1985)), the court held that the Corps' denial of a permit to mine phosphate rock in wetlands in Florida constituted a taking because rock mining was the only economically viable use for the company's land. Florida Rock bought property in southern Florida in the early 1970s with the express purpose of mining phosphate rock. The court stated that "to leave the plaintiff with a commercially worthless piece of property in the name of preserving wetlands would be to charge the plaintiff with more than its fair share of this public cost" (*Florida Rock* at 177). The case is significant in that it was the first case to hold that denial of a 404 permit is a taking.

On appeal, the Federal Circuit Court upheld the claims court's ruling, but found that the court had erred in assessing the value of Florida Rock's property on the basis of current uses only (namely, mining) rather than considering other speculative uses. Although it remanded the case to the claims court, the appeals court stated that there is a "substantial possibility that a taking should be held to have occurred" (*Florida Rock Industry, Inc. v. U.S.* (791 F.2nd 905 (D.C. Cir. 1986)).

In a more recent case, in which a developer alleged that denial of a 404 permit was a taking, the U.S. Court of Claims strongly hinted that it felt a taking had occurred, but it held that further proceedings were necessary before it could reach a decision (*Loveladies Harbor, Inc. v. U.S.* (16 Cl. Ct. 381 (1988)). Loveladies Harbor applied for a permit to fill 12.5 acres of wetlands in its 51-acre site in Ocean County, New Jersey. The Corps found that one of 12.5 acres was actually uplands, so no permit was required, but it denied a permit for filling the remaining 11.5 acres.

After failing to overturn the Corps' denial in federal district and appellate courts, Loveladies brought an action in the U.S. Court of Claims. The court applied the same two-pronged takings test that was used in *Agins* and *Keystone*, but it discredited the "legitimate governmental interest" prong since "no court has ever found that a taking has occurred solely because a legitimate state interest was not substantially advanced" (*Loveladies* at 390).

The claims court determined that the 11.5 acres were worth about $4 million with a permit and only about $14,000 without and that the one acre of uplands was worth about $680,000. Given the severity of the economic impact, the court stated that it is "hard to imagine a takings claim more deserving of compensation" (*Loveladies* at 396).

The court, however, cited other decisions where courts held that a mere diminution of value is not sufficient grounds to find a taking and that plaintiffs must also be denied all economic use of their property before a taking can occur. The claims court stated that if, in future proceedings, Loveladies could show that the one acre of uplands cannot be developed, then the company will prevail at trial; if not, then the company's takings claim will be denied. Earlier, however, the court stated that the one acre of uplands is, in effect, "an island surrounded by a sea of wetlands," and that a taking will occur if all routes to that property are cut off. Thus, it appears that the court has set the stage for a finding that a taking has indeed occurred. (A trial was held in October 1989, but as of January 1, 1990, the claims court has still to reach a decision.)

Still in its infancy, wetlands takings law is constantly changing. Since the *Just* decision, most courts have given the federal government broad authority to regulate activities in wetlands. But the *First English* and *Nollan* (discussed below) decisions marked turning points in takings law in general, and, following *Loveladies*, as it applies to wetlands as well. It is unclear now just how far restrictions on wetlands development can go before they are considered a taking. If a taking is found in the *Florida Rock* and *Loveladies* cases, then the judicial pendulum will swing in favor of landholders, and in a relatively short time wetlands law will have come full circle: from *Morris Land* to *Just*, then to *Deltona* and *Riverside*, and, after *Loveladies*, back again to *Morris Land*.

In the meantime, when denied a permit from the Corps, developers are likely to be frustrated in their efforts to seek relief from the courts. When seeking permits, developers should be prepared to make concessions upfront and should expect to include some sort of mitigation. The onus rests with the applicants to prove to the regulatory agencies that not only have they done all they could to minimize the adverse environmental impacts of their project, but that their projects may actually enhance the environment. On the other hand, regulatory agencies must be careful about what conditions they place on a permit, and they must ensure that a reasonable connection exists between the mitigation requirements and a public purpose. Otherwise, they run the risk of a taking.

In March 1988, in a move that may have a profound effect on the 404 program, President Reagan issued Executive Order 12630, "Governmental Actions and Interference with Constitutionally Protected Property Rights" (53FR 8859 (March 18, 1988)). The Order directs federal agencies to "evaluate carefully the effect of their administrative, regulatory and legislative actions on constitutionally protected property" in order to "prevent unnecessary takings." Government regulatory programs, such as the 404 permit program, are included.

The Order stems from the landmark 1987 U.S. Supreme Court decision, *Nollan v. California Coastal Commission* (107 S.Ct. 3141 (1987)). Nollan, a landowner, had applied to the California Coastal Commission for a permit to expand his beachfront house. The commission issued the permit on condition that Nollan would grant an easement to allow public access to the beach. Nollan sued on the grounds that the requirement is a taking. The U.S. Supreme Court held that the essential "nexus" between the commission's purported goal of preserving beach access and the burden (easement) placed on Nollan's property was lacking, and that the exaction, therefore, amounted to an impermissible "taking."

The Order partly reflects the Reagan administration's concern that the government may be vulnerable to such takings claims, but it was also an attempt by the Reagan administration to limit government regulation of private property. In accordance with the Order, the attorney general developed guidelines that establish a uniform framework for federal agencies to use when evaluating the takings implications of their actions—the so-called "takings implication assessment." The assessment allows an agency to determine whether or not a proposed policy or action poses a risk of a taking and what the possible financial exposure of the proposal might be. Before placing any conditions on a Section 404 permit, for example, the Corps must perform an assessment and give special thought to the takings implications. Depending on how rigorously it is implemented, the Order could dampen federal enthusiasm to regulate wetlands. The Corps may be more reluctant to deny 404 permits and may instead grant more with mitigation.

The current method of processing permits on a case-by-case basis is inefficient. The rather clumsy administrative framework—where the Corps administers the program under EPA oversight—and the sheer volume of applications makes the process unwieldy for both the Corps and EPA alike. Indeed, nobody is particularly happy with the process that operates, as former Governor Thomas Kean of New Jersey put it, "a split personality."[20] Developers find the process unpredictable and often costly. Since the Corps and EPA have wide latitude to interpret the regulations, interpretations often vary across regions. A permit granted for a project in one area may be denied for a similar project under similar conditions in another. No hard and fast rules exist for developers to follow. They can never be sure if or when they will get a permit or how much mitigation will be required and how much it will cost. Environmentalists contend that the case-by-case process allows wetlands to be destroyed piece-by-piece, with individual projects slowly chipping away at a larger wetlands ecosystem and little thought given to cumulative impacts. A recent EPA review of over 90 Section 404 permits issued in Oregon and Washington found that most of the permits were for small fills of one acre or less.[21] These small fills add up, resulting in substantial cumulative wetlands losses.

EPA and the Corps have not been insensitive to such complaints. In 1989, EPA sponsored a study, conducted jointly by ULI–the Urban Land Institute and the Environmental Law Institute (ELI), of four regional planning efforts that endeavored to balance wetlands conservation with wetlands development. The four areas studied were Anchorage, Alaska; East Everglades, Florida; the Columbia River Estuary in Oregon; and the Chesapeake Bay in Maryland. The study found that, in general, regional wetlands planning improved the existing permit process by providing greater predictability for developers while offering conservationists greater assurance that certain wetlands would be protected. Based on their evaluation of the four regions, ULI and ELI identified a number of factors that were necessary for regional wetlands plans to be successful, such as strong leadership from a key public official to endow the planning effort or group with legitimacy, purpose, and authority; a method (or institution) and funding to implement the plan; availability of upland (nonwetland) areas that can accommodate growth; and participation of federal, state, and local agencies with jurisdiction over wetlands.[22]

In addition, in 1987, at the behest of EPA, The Conservation Foundation convened a National Wetlands Policy Forum to address some of the deficiencies in the current wetlands programs. The 20-member forum, chaired by Governor Kean, was composed of representatives from business, farming, and environmental groups, as well as from federal, state, and local governments. In November 1988, after more than a year of deliberations, the forum released an extensive list of recommendations for improving federal, state, and local wetlands programs. It recommended adopting both regulatory and nonregulatory approaches to improve the management and protection of U.S. wetlands. First and foremost, the forum recommended that the United States establish a national wetlands protection policy to achieve "no net loss" of wetlands over the short run and to increase the wetlands base over the long run. No net loss means that wetlands created will balance wetlands destroyed. The forum also recommended:

- expanding wetlands programs to cover all kinds of wetlands alterations, such as draining and excavation, and not just deposit of fill;
- implementing stronger mitigation requirements;
- expanding government wetlands acquisition and preservation programs;
- expanding monitoring and enforcement of wetlands regulations;
- developing incentives to protect wetlands; and
- delegating responsibility for all wetlands regulations to the states.

The forum's recommendations, which represent a consensus from the group, have not fallen on deaf ears. EPA, which had anxiously awaited the final report, has already begun to implement some of the recommendations. In January 1989, EPA released a Wetlands Action Plan that outlines the agency's strategy for implementing the recommendations. The agency has enthusiastically adopted the goal of no net loss and has pledged to toughen enforcement of wetlands protection laws and to require mitigation for all fills. Former EPA chief administrator, Lee Thomas, said that the action plan will send a "clear message that wetlands protection is a high priority." His successor, William Reilly, the former head of The Conservation Foundation, is likely to adopt additional forum recommendations.

ADVANCE IDENTIFICATION

A major flaw of the current wetlands regulatory system is that it is reactive rather than proactive; both EPA and the Corps spend most of their time responding to permit requests and very little time working to avoid conflicts in advance. Under section 230.80 of the EPA 404(b)(1) guidelines, however, EPA and the Corps may, based on their joint identification and evaluation of wetlands, designate certain wetlands as suitable or unsuitable for disposal of dredge or fill material in advance, before development plans or permit requests are imminent. Advance identification is proactive and it can help regulators and developers avoid unnecessary and costly conflicts. The designations do not grant or deny permits in advance; in general, applicants still must obtain an individual permit. But because the Corps and EPA have agreed in advance on where fills should and should not occur, conflicts between the two agencies should be fewer. Developers may still apply for a permit to fill wetlands designated as off-limits, but their chances of obtaining a permit are slim.

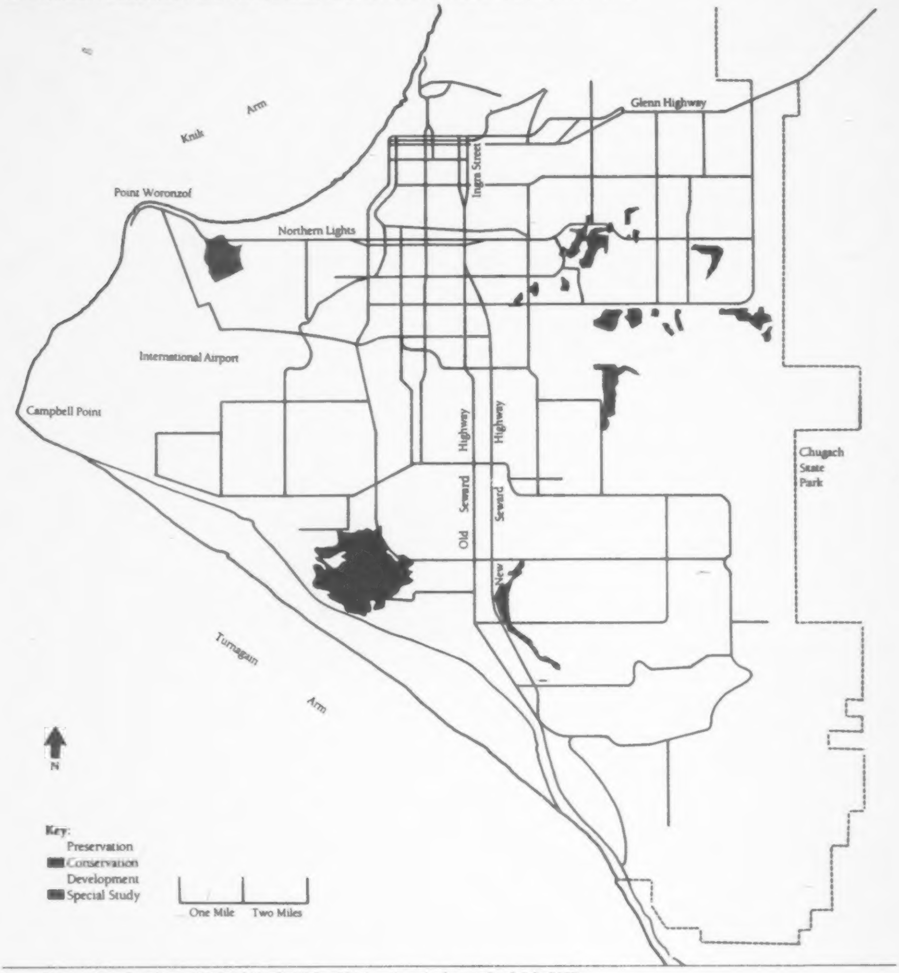
Advance identification can make the permit process more predictable, can reduce government regulation, and can provide a framework for reaching definite regulatory results (permits issued, permits conditioned, and permits denied) more efficiently than the case-by-case method. Moreover, advance identification usually bolsters public awareness and appreciation of wetlands values and allows the regulatory agencies to assess cumulative impacts of isolated fills on an entire watershed. As one EPA official noted, advance identification helps prevent wetlands from getting "nickel and dimed to death." Advance identification gives developers the predictability they desire while ensuring that sensitive areas (such as rare or pristine wetlands) will be protected and that the cumulative impacts of wetlands fills will be considered in the context of an entire ecosystem.

The disadvantages of advance identification include the difficulty of securing agreement among parties, the very resource-intensive nature of the process for the agencies involved, and the fact that it does not always work. For example, landowners whose land will fall under the off-limits category will likely object to such a designation, while conservationists may protest the classification of certain wetlands as expendable.

Between 30 and 40 advance identification processes have been proposed, completed, or are underway in such places as the Hackensack Meadowlands, New Jersey; Chincoteaque Island, Virginia; York County, Maine; Pearl River Basin, Louisiana; East Everglades, Florida; Rainwater Basin, Nebraska; San Francisco Bay; along the Jordan River in Utah; and in the dunes region of Indiana.[23]

At the southern tip of Lake Michigan in northwest Indiana, the Grand Calumet River/Indiana Harbor Canal drains a heavily industrialized watershed. Much of the water in the area is polluted, and in 1985 EPA developed a master plan to improve the water quality of the river. Part of this plan involved wetlands preservation, so the agency decided to embark on an advance identification process. The area includes a region called

CLASSIFICATION OF WETLANDS IN ANCHORAGE, ALASKA


Knik Arm
Glenn Highway
Point Woronzof
Ingra Street
Northern Lights
International Airport
Campbell Point
Old Seward Highway
Seward Highway
New Seward Highway
Chugach State Park
Turnagain Arm
N
Key:
Preservation
Conservation
Development
Special Study
One Mile
Two Miles

Source: Municipality of Anchorage Wetlands Study, Wetland Designations Anchorage Bowl, July 1987.

the "Indiana Dunes," which is characterized by a series of dunes and ponds along Lake Michigan. The ponds provide habitat for many endangered plants that are not found elsewhere in Indiana. The ponds were formed in the 1930s when the lake level and water table rose.

The advance identification process involved the Corps, FWS, the National Park Service, Indiana Department of Natural Resources, Northwestern Indiana Regional Planning Commission, the Lake Michigan Federation, and EPA. Wetlands were identified, mapped, and evaluated. Since many wetlands had already been destroyed or degraded, the agencies decided that any remaining wetlands that still perform beneficial functions, such as flood control, or that offer wildlife habitat would be designated off-limits to development. This designation did not include disturbed or excavated wetlands, wetlands that seldom contain standing water, or wetlands of less than five acres (unless they exhibited outstanding natural resource values). Altogether, 1,832 of approximately 9,190 acres of wetlands were designated as unsuitable for fill.

The results of the advance identification for the Calumet River region were incorporated into a regional master plan. Elsewhere, advance identification may evolve into a special area management plan (SAMP) and be incorporated into local planning and permitting programs. Under the 1980 amendment to the Coastal Zone Management Act, the Corps, in conjunction with federal resource agencies such as EPA and FWS, as well as state and local agencies, may develop a comprehensive plan, called a SAMP, to provide both natural resource protection and reasonable coastal-dependent development in a specific geographical area. The plan contains a comprehensive statement of policies regarding, and criteria to guide, land use. Ideally, a SAMP concludes with details of local, state, and federal approvals or restrictions of certain activities (fills) in defined wetlands. The program is designed for coastal areas, but the advance planning concept can equally be applied to inland waters. The SAMP process works best where wetlands face strong development pressure and where there is strong local interest in, and support for, the plan, since local or regional agencies ultimately implement the wetlands development/preservation features of the SAMP.

One of the more successful SAMPs was implemented in Anchorage, Alaska. Anchorage—a coastal community of 215,000—sits on a triangular peninsula flanked on two sides by the Knik and Turnagain Arms of the Cook Inlet and on the third side by the Chugach Mountains. Squeezed between the mountains on one side and the Knik and Turnagain Arms on the other, development is limited to the existing, vacant land within the Bowl and Eagle River, which is also where many wetlands occur. The Alaskan economy is heavily dependent on oil. Anchorage's economy, like that of Houston or Denver, is vulnerable to fluctuations in oil prices. In the late 1970s and early 1980s, an oil boom in Alaska triggered investment and development in Anchorage. This, in turn, intensified development pressures in the wetlands. At the same time, federal, state, and local groups sought to protect the area's critical wetlands.

These competing pressures spurred the city to develop a wetlands management plan. The main objective of the plan was to produce a strategy that would protect wetlands serving important ecological or hydrological functions and identify wetlands of limited ecological or hydrological values within which development could occur. Developed as a cooperative effort among local, state, and federal officials, as well as citizens' and environmental groups and property owners, the wetlands management plan is part of Anchorage's coastal zone management plan and its comprehensive development plan.

The plan classified wetlands into four categories (see Figure 2.2): preservation, in which no development, with few exceptions, can occur; conservation, an intermediate category in which some development may occur and some wetlands are preserved; developable, in which development can occur most readily; and special study, which includes wetlands that must be studied further before they can be classified into one or more of the previous three categories. The Corps' case-by-case Section 404 permit process governs development in the preservation and conservation areas; the Corps issued a general permit for the developable area.

Although some problems remain with the plan, it has been largely successful. In general, developers are pleased that they can develop within certain areas and that the permitting process is more predictable and expedient. For their part, environmentalists are pleased that the plan protects many critical wetlands. Since the plan was enacted in 1982, most development has occurred in wetlands classified as developable, some in conservation wetlands, and about 125 acres of preservation wetlands have been filled, primarily for public projects such as roads or ballfields.

Despite the apparent success in Anchorage and in a few other areas, advance identification has a mixed record. Compared to the case-by-case method, advance identification may save neither time, money, nor wetlands. For example, in the early 1980s, EPA and the Corps began a tortuous and controversial advance identification of wetlands in Chincoteaque Island, Virginia, an eight-mile-long by one-mile-wide barrier island at the northern end of Virginia's coastline.

Once primarily a fishing village, the island now harbors a thriving tourist industry. Its year-round population of only about 500 people swells to well over 15,000 during the height of the summer, creating a burgeoning demand for additional motels, campgrounds, trailer parks, retail stores, and restaurants. With over 1,000 acres of wetlands on this slender island, development frequently involves filling wetlands. The goals of the advance identification process were to increase public awareness of wetlands values and of the 404 program, to reduce future disputes between EPA and the Corps, and to provide some predictability to developers by identifying those wetlands that were suitable or unsuitable for fill.

Many local residents, developers, and some public officials resented federal intrusion into their affairs and property owners vociferously objected to any federal designation that would exclude their land from profitable development. The uproar surrounding the advance identification process did create a widespread awareness of the 404 permit program, but it did not prevent a few residents from filling wetlands without a permit. EPA has taken enforcement action against these violators.

In contrast to the residents of Chincoteaque Island, residents in the Poconos in eastern Pennsylvania generally welcomed advance identification for three wetlands comprising a total of roughly 1,200 acres. The Poconos residents felt that unbridled development was ruining their natural resources. In fact, according to EPA, strong public support for wetlands protection has led to increased enforcement of illegal fills by EPA and the Corps.

Despite the checkered history of advance identification to date, the process does seem to promise that, in the long run, the regulation of wetlands will be more efficient, predictable, and consistent. Advance identification should also enable federal agencies to foresee, and therefore to minimize, the cumulative impact of wetlands losses. Developers too should benefit from a process that identifies in advance which areas are open and which are closed to development.

A CLEARER FUTURE?

Although the federal agencies, particularly EPA and the Corps, have fought pitched battles in the past over the purpose and scope of the 404 program, recent developments suggest that the agencies are entering a period of mutual cooperation. Their joint delineation manual, memorandum of agreement on a mitigation policy and on enforcement, and increased interest in advance planning all mark tell-tale signs of improved relations between EPA and the Corps. Recent court cases have helped clarify federal agency roles and jurisdictions, but they have also muddied the waters. The *Riverside Bayview* decision affirmed the Corps' jurisdiction over wetlands adjacent to waters of the United States, but the market entry theory in the *Attleboro Mall* decision unfortunately added confusion to the permitting process. Overall, however, the prospects look good for EPA and the Corps to continue working toward providing a more consistent, predictable approach to regulating wetlands and perhaps providing greater protection for the nation's wetlands.

Nonetheless, even with full cooperation and understanding among federal resource agencies, wetlands will still fall prey to a variety of unregulated activities, such as dredging or draining, that lie outside the Corps' jurisdiction. In fact, the Corps regulates only a relatively small share of wetlands-altering activities. At the risk of duplicating federal efforts, several states have stepped in to fill some of the loopholes in the CWA that allow unmitigated wetlands destruction to occur.

Notes

1. Address by Theodore Roosevelt at the laying of the cornerstone, House Office Building, Washington, D.C., April 14, 1906.
2. 53 FR 3120.
3. Malcolm Baldwin, "Wetlands: Fortifying Federal and Regional Cooperation," *Environment*, vol. 29, no. 7, 1987, p. 19.
4. The origins of the Clean Water Act may be traced to 1948, when Congress first provided money for construction of municipal wastewater treatment plants. But it was not until 1972, when Congress enacted the Federal Water Pollution Control Act Amendments (FWPCA), that the current framework of the CWA was established. The FWPCA was amended and renamed the Clean Water Act in 1977. The Clean Water Act was amended once again in 1987.
5. 33 U.S.C. Section 1344(a).
6. Emphasis added; 40 CFR Section 230.10(a).
7. Emphasis added; 40 CFR Section 230.10(c).
8. 33 U.S.C. Section 1344(c).
9. U.S. General Accounting Office, *Wetlands: The Corps of Engineers' Administration of the 404 Program* (Washington, D.C.: author, July 1988), p. 52.
10. CWA Section 101(a).
11. See 40 CFR Section 230.10(a)(3).
12. 40 CFR Section 230.3(q).
13. 40 CFR Section 230.10 (c)(1),(2),(3); (c).
14. 40 CFR Section 1508.20.
15. Lieutenant-Colonel Kit J. Valentine, "Corps of Engineers: Mitigation Responsibilities," in *Mitigation of Impacts and Losses: Proceedings of the National Wetland Symposium* (Berne, New York: Association of State Wetland Managers, May 1988), p. 35.
16. Mary C. Landin and Andrew C. Miller, "Beneficial Uses of Dredged Material: A Strategic Dimension of Water Resource Management," in *Transactions of the 53rd North American Wildlife and Natural Resources Conference* (Louisville, Kentucky: The Wildlife Management Institute, Washington, D.C., 1988), pp. 315–325.
17. Based on a personal conversation on July 20, 1988, with Douglas Ehorn, deputy chief, Water Quality Branch, Region V, U.S. Environmental Protection Agency.
18. U.S. General Accounting Office, *Wetlands*, p. 66.
19. Dan Mandelker, *Land Use Law* (2nd edition, Charlottesville, Virginia: The Michie Company, 1988), pp. 24–28.

20. See Thomas H. Kean, "Protecting Wetlands: An Action Agenda," *Environmental Forum*, vol. 6, no. 1, January/February 1989, p. 23.

21. Mary E. Kentula, et al., "Trends and Patterns in Section 404 Permitting in the Pacific Northwest," U.S. Environmental Protection Agency, Corvalis Research Laboratory; forthcoming in *Environmental Management*.

22. For further details, see the summaries of four case studies given in the Environmental Law Institute's *National Wetlands Newsletter*, vol. 11, no. 6, November–December 1989, pp. 9–16.

23. Information obtained during a personal conversation on February 28, 1989, with Tom Muir of the U.S. Environmental Protection Agency, Office of Wetlands Protection, Washington, D.C.

CHAPTER 3

STATE WETLANDS REGULATION

By different methods different
men excel;
But where is he who can do
all things well?
Charles Churchill

States have not stood by idly while the federal agencies develop programs to regulate the nation's wetlands. In line with the philosophy of "new federalism"—in which states play a more active, and the federal government a less active, role in policy making—many states have enacted their own legislation to fill the regulatory gaps in the federal 404 program and protect their remaining wetlands.

The resulting programs, no two of which are identical, vary from those that regulate a wide range of activities such as dredging or draining, to programs that provide tax incentives to protect wetlands permanently. Massachusetts, for instance, which was the first state to regulate wetlands and which now has one of the strictest wetlands protection laws in the nation, regulates not only dredge and fill in wetlands, but also removal and alteration. New Jersey, which has regulated coastal wetlands since 1970, but which only recently began regulating freshwater wetlands, regulates removal, disturbance, or dredging of soil, drainage or disturbance of the water level or water table, and discharge or fill. And one maverick state, Michigan, has even qualified to assume responsibility for administering the 404 program within its own borders.

In general, states regulate wetlands in two ways: indirectly, as part of broad regulatory programs such as the coastal zone management program or the water-quality certification provisions under Section 401 of the Clean Water Act; and directly, by enacting laws specifically to regulate activities in wetlands.

This chapter provides an overview of state wetlands laws that protect coastal and inland wetlands, describes how those programs are implemented, discusses state permit processes, and concludes with a more detailed look at six state programs covering a variety of activities in both coastal and inland wetlands. Those states are: Florida, New Jersey, Oregon, California, Michigan, and Massachusetts.

STATE ASSUMPTION OF THE 404 PROGRAM

In 1977, Congress directed EPA to turn part of the 404 program over to the states. Under Section 404(g) of the CWA, EPA may delegate administration of the 404 permit program for nonnavigable waters to individual states. The Corps would retain its authority over navigable waters within a state, and EPA would continue to oversee a state's program.

Before a state can take over the program it must first obtain EPA approval, which may take several years. In order for a state program to qualify, it must have several features in common with the federal program; a state must review permit applications in compliance with the 404(b)(1) guidelines, issue a public notice, respond to comments, and so on. State programs may be broader and more stringent than the federal program, but the "extra" coverage will not be subject to federal oversight or enforcement.

For a variety of reasons, states have been disinclined to take over the program. By the end of 1989, only one state—Michigan—had assumed administration of the program and only one other state—New Jersey—was seeking to do so. The 404 permit program's regulations are cumbersome, its requirements are stringent, and the incentives to assume its administration are few. For example, in a coastal state that administers the federal program, the Corps would retain jurisdiction over most of that state's coastal waters. Oregon seriously considered assuming responsibility of the 404 permit process in 1988, but concluded that since the Corps would retain jurisdiction over much of the state's wetlands, and since the state would have to spend an estimated $410,000 per year to run the program, it simply was not worth it.

Furthermore, despite Congress's directive, EPA has shown a reluctance to part with its oversight. Although—at least obstensibly—EPA joins with the Corps in supporting handing the permit program over to the states, the agency fears that state regulators could succumb to pressure from the building industry and compromise the program. "EPA is afraid that state [resource] agencies will become pimps for developers," observed Stan Geiger of Scientific Resources, Inc., a consulting firm in Lake Oswego, Oregon.[1] Such concerns may be exaggerated. Even after EPA delegates program administration to a state, the agency can rescind its delegation if a state fails to meet EPA standards. In addition, states may not issue a permit over EPA's objection.

In recent years, however, EPA has tried to accommodate itself to the spirit of new federalism. In 1987, the agency amended its regulations to make them less onerous. And in light of the 1988 recommendation by the National Wetlands Policy Forum to delegate the program to the states, EPA may well take further steps to induce more states to follow Michigan's lead. EPA believes that federal and state wetlands regulation should be a partnership; if Michigan's experience is any indication, EPA will not meddle in the administration of state 404 programs. In 1985, only 1 percent of Michigan's permit applications were reviewed by EPA, and in 1986, only 1.5 percent.[2]

State assumption of the federal 404 permit program would substantially reduce duplication and delays caused by overlapping state and federal wetlands regulations. But most states will not seek to assume responsibility for the program until the federal government improves the incentives to do so—for example, by providing states with financial and technical assistance. The National Wetlands Policy Forum recommended that Congress should enact legislation allowing EPA to delegate discrete portions of the 404 regulatory responsibilities to states and to provide states with the financial and technical assistance necessary to develop programs to carry out their delegated responsibilities.[3]

INDIRECT PROGRAMS

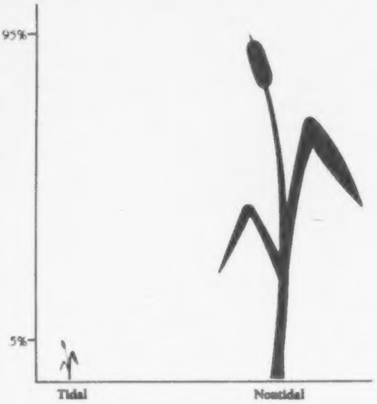
Most wetlands protection efforts on both state and federal levels started along the coasts and slowly worked their way inland. Coastal wetlands have always received more attention and therefore more protection than their inland cousins, even though freshwater wetlands comprise the bulk of all wetlands.

Nonetheless, until 1972, only a few states had laws to protect their coastal wetlands. California and Oregon had broad coastal zone management programs in place by then, while Massachusetts and Connecticut enacted laws specifically to protect coastal wetlands. But in 1972, the Coastal Zone Management Act (CZMA) provided the impetus for the rest of the coastal states to follow their lead. Now, all but a handful of coastal states administer federally approved coastal zone management programs.

Each state program is different, ranging from those in New York, Massachusetts, and Virginia, which simply packaged existing state programs into a form that fitted the federal criteria, to those in California and North Carolina, which enacted specific state laws to implement the federal program. In some states, local governments implement the coastal zone program, leaving the state government with a limited role. Usually the state will establish guidelines or standards that the local programs must meet. In other states, the state government maintains direct control over program administration. Many states, such as Washington, California, and North Carolina, require local governments to prepare coastal zone management plans, whereas in Florida and New York such plans are voluntary. In several northeastern states, no formal local role exists, and the state relies on direct control of the coastal zone management program. In South Carolina, local governments may prepare shorefront management plans, but the state maintains regulatory control.

Washington was the first state to have its coastal zone management program approved by the National Oceanic and Atmospheric Administration (1976). The heart of its program is its 1971 Shoreland Management Act. The act requires each local government to prepare a management plan and a permit system for future development within its coastal zone. Local permits are reviewed by the state. The act applies statewide, covering over 20,000 miles of shoreline, but is not limited to the coastal zone. It applies to all marine waters, lakes over 20 acres, streams with an annual flow of over 20 cubic

FIGURE 3.1
THE PROPORTION OF TIDAL TO NONTIDAL U.S. WETLANDS



feet per second, and wetlands within 200 feet of these waters.

Ten years after Washington's program was approved, Virginia became the 29th of 35 eligible states to join the federal coastal zone management program. But unlike Washington, whose program is based primarily on one law, Virginia's program is based on a number of existing state laws, programs, and agencies. The state's Council on the Environment, which was established under its Environmental Quality Act, packaged the various state programs, such as the 1982 Wetlands Act that regulates activities in tidal wetlands only, into one comprehensive coastal program. The state can delegate management authority to local jurisdictions that adopt a model wetlands ordinance, which most of Virginia's local governments have done.

Several states enacted new legislation to create their coastal programs. For example, North Carolina's Coastal Area Management Act of 1974 became the basis for its coastal program. The act established the Coastal Resource Commission, which developed guidelines for local land use plans in coastal areas. Coastal counties must adopt plans that conform with state guidelines. Under the act, development is regulated in commission-designated "areas of environmental concern," which include coastal wetlands and estuarine waters.

State Water-Quality Certification

One of the main goals of the CWA is to reduce discharges of pollutants, particularly from industrial sources, into U.S. lakes, rivers, and streams. The 1972 amendments to the act established a permit program, known as the National Pollution Discharge Elimination System (NPDES), for point source discharges. The NPDES in turn established end-of-the-pipe standards for pollution discharges into U.S. waters. State water-quality standards, subject to EPA approval, are also used to control discharges. These standards can be used, indirectly, to prohibit development in wetlands.

Under Section 401 of the CWA, any federally permitted activity, including wetlands fills permitted under Section 404, must comply with state water-quality standards, which can be stricter than federal standards, just as state wetlands laws can be more stringent than federal laws. States can veto federally permitted projects that fail to meet their water-quality standards. Most states feel that Section 401 is not specifically designed to protect wetlands and that, therefore, it is not very effective in that role. In a few states, however, such as Iowa and Ohio, water-quality permits are a state's only means of protecting wetlands. In Ohio, for example, an antidegredation policy has been applied to water-quality certification in wetlands.[4]

Regional Programs

A handful of states have enacted programs that protect unique natural resources, including wetlands, in defined geographical areas. Maine, Florida, California, New Jersey, New York, and Massachusetts all have such programs. For example, in 1979, New Jersey enacted the Pinelands Protection Act to regulate development and protect natural resources, including wetlands, in a roughly 1 million-acre area in the south-central part of the state. Likewise, California's and Nevada's Lake Tahoe region also receives special regional protection. Florida's Critical Area Program applies to "areas of critical state concern," which may include an area containing natural, historical, or archaeological resources of regional or statewide significance. The program has been used to protect threatened resources in the Florida Keys and along the Suwannee River. Maine's Critical Areas Program was established in 1973 to identify and help ensure the protection of sites of unusual natural, scenic, or scientific value throughout the state, including exceptional plant or animal habitats, waterfalls, estuaries, beaches, and bogs. The program has three basic functions: to identify and document significant natural areas; to register them as "critical areas;" and to promote their voluntary conservation through cooperation with landowners. Since the program's inception, over 580 sites have been registered.

One of the more recent and well-known regional programs is Maryland's Critical Area Program, which was established in 1984 to protect the Chesapeake Bay.

Nearly 195 miles long and draining a 64,000-square-mile area that includes all of Washington, D.C., most of Maryland, Virginia, and Pennsylvania, and parts of New York, Delaware, and West Virginia, the Chesapeake Bay is the largest estuary in the United States. It had long been one of the most productive estuaries in the nation and was famed for its oyster and crab harvests. But pollution from a variety of sources both near and far began to take its toll on the Bay's resources. Oyster production declined, and a moratorium was placed on several species of commercially important fish, such as striped bass, that were contaminated with pollutants.

In response to continuing deterioration of the Bay, the Maryland General Assembly enacted the Critical Area Act in 1984. The act came on the heels of a five-year, $27 million EPA study that linked the Bay's decline to pollution from both direct sources, such as factories and power plants, and indirect sources, such as agriculture and residential development. It established a program to limit development within 1,000 feet—the critical area—of tidal waters or tidal wetlands in Maryland's portion of the Chesapeake Bay. All new development in the critical area must include a 100-foot buffer zone along tidal waters and wetlands and a 25-foot buffer for nontidal wetlands. Administered by local governments, which must adopt critical area plans that are consistent with criteria established by a statewide commission, the program aims to direct future growth away from the critical area and into areas that are already developed. The act directs local governments to map and classify their critical areas into three categories based on the density of existing land uses:

- Intense Development Areas—areas with a high concentration of residential, commercial, industrial, or institutional development. Development can occur most readily in this area, but developers must improve the quality of existing stormwater runoff and not allow additional development to impair water quality.
- Limited Development Areas—areas with moderate- or low-density residential development. Additional development can occur in this area, but it must not change the prevailing housing density of between one and four units per acre. To control stormwater runoff, development in this area must limit the amount of impervious surfaces within a site to 15 percent.
- Resource Conservation Areas—areas characterized by farms, open fields, wetlands, or forests. Development is limited to a maximum density of one unit per 20 acres. To ease the development restrictions on rural communities along the Bay that contain mostly resource conservation areas, up to 5 percent of such areas can be designated as either limited or intense development areas.

Although not designed specifically to protect wetlands, the critical area program, with its broad objectives to improve water quality and protect fish and wildlife habitat, contains a number of protective features for tidal and nontidal wetlands. For example, the program protects all tidal wetlands and nontidal wetlands "of importance to plant, fish, wildlife, and water quality." Development in the critical area must include buffers of natural vegetation along tidal waters and tidal and nontidal wetlands. Moreover, local governments must develop a wetlands mitigation plan for unavoidable, water-dependent impacts in nontidal wetlands.

Maryland's critical area program withstood its first legal challenge in 1988 when a developer argued that the Critical Area Act amounted to a taking of his property without compensation (*Meredith v. Talbot County*, No. CG 0510 (Md. Cir. Ct. July 14, 1988)). In that case, a developer submitted a proposal to subdivide 200 acres along a tributary of the Chesapeake Bay in Talbot County, Maryland. The county approved the proposal for all but 40 acres, which contained bald eagles. In order to meet a moratorium deadline for submission of development plans, the developer agreed not to build on the 40 acres, and based on this agreement, the county approved the project. Later, however, after the county rejected the developer's request for a waiver of the 40-acre restriction, the developer sued, arguing that he agreed to the restriction under duress. The court held that in making the voluntary agreement with the county, the developer was "not under such duress" that the court should void the agreement.

DIRECT PROGRAMS

Most states have enacted laws that apply specifically to wetlands (see table on pp. 48–49). The laws vary from those that authorize states to acquire and preserve wetlands to those that require permits for construction in wetlands. Typically, state wetlands laws authorize states to map wetlands and also to regulate certain activities in them. Maine was one of the first states to conduct a statewide inventory of its wetlands, although not every wetland was included in the inventory. Several other states, such as New York, Michigan, and Wisconsin, are in the process of mapping their wetlands; Connecticut has already mapped all of its inland wetlands. About half of the states have some sort of program authorizing them to purchase and preserve wetlands. For example, Illinois's Natural Heritage Program established a trust fund that matches, dollar-for-dollar, private contributions to protect natural areas, including wetlands. Some states provide tax advantages, including reductions in property tax, income tax, gift or inheritance tax, or capital gains tax, to individuals who protect wetlands. A few other states offer property tax abatement for landowners who retain wetlands in their natural condition.[5]

Most of the 30 coastal states regulate development in coastal wetlands, but only 14 regulate freshwater wetlands as well. Some states, such as Louisiana and Mississippi, recently enacted coastal wetlands permit programs, but neither one has an inland wetlands protection act. Only one noncoastal state, North Dakota, has enacted a law requiring permits for certain activities in wetlands. In 1987, it adopted a no-net-loss policy that requires acre-for-acre replacement of wetlands drained after its wetlands law was enacted.

Some states modeled their programs after the federal 404 program and incorporated the same definitions, exemptions, and permit requirements as those employed by the Corps and EPA; other states adopted programs that extend far beyond the regulatory reach of the federal program and regulate more than just the deposit of dredge or fill. A few state wetlands regulations cover activities not only in a wetland itself, but also in a buffer strip around the wetland. Several states, such as Florida and Massachusetts, protect their coastal and inland wetlands under a single law, while others, such as New Jersey, have separate laws for each.

No two state wetlands programs are administered in the same fashion. In New England, where home rule reigns, states typically allow their wetlands program to be delegated to local governments. In other regions, control is retained at the state level. In Connecticut, municipalities once were only encouraged to regulate wetlands; now, following amendments to Connecticut's Inland Wetland Law in 1987, they are required to do so. In Maine, the state may delegate administration to municipalities, while Massachusetts's program is administered by over 300 conservation commissions but overseen by the state.

State definitions of wetlands vary, and so, therefore, do their jurisdictions. Although some states have adopted EPA's definition of wetlands, the majority have developed their own. Most states rely on vegetation or soils to establish wetlands boundaries, in contrast to EPA and the Corps, which use hydrology, plants, and soils. Connecticut, for example, relies on different soil types to separate wetlands from uplands. Massachusetts defines a wetland as an area where at least 50 percent of the vegetation is comprised of characteristic wetlands plants. North Dakota defines a wetland as a "natural depressional area that is capable of holding shallow, temporary, intermittent, or permanent water."

Residential development has all but engulfed this estuarine wetland in Long Island, New York. What is left remains scarred by mosquito control ditches. Most coastal wetlands filling in New York occurred before the state enacted its Tidal Wetlands Act in 1972.

States have concocted a variety of measures to delineate where the wetland ends and the upland begins, which is a bit like drawing a line separating the Gulf of Mexico from the Atlantic Ocean. Wetlands seldom establish clear, well-defined edges. Instead, the borders of wetlands can typically be characterized as a transition zone, a continuum between wetland and upland where the plant cover gradually shifts from predominantly wetlands plants to predominantly upland. Many plant species can tolerate a broad range of soil moisture conditions and so can grow in both wetlands and uplands. Black spruce grows in forested wetlands as well as in upland, spruce/birch forests. In other words, one cannot rely solely on plants to differentiate between uplands and wetlands.

The inconsistency of definitions and overlapping of state and federal jurisdictions often cause problems for members of the regulated community, particularly those members who have projects in different states. What is regulated in one state may not be regulated in another. And within a single state, local wetlands ordinances can vary from town to town. Although this lack of uniformity may complicate things for developers, it has certainly been a boon to wetlands scientists, who are often asked to delineate wetlands to avoid or settle disputes between developers and regulators.

State Permitting

The permit process for most state wetlands programs is very similar to the federal 404 program. Like the 404

STATE WETLANDS PROGRAMS AT A GLANCE

Alabama Permits required under its Coastal Area Management Act for activities (dredging, dumping, etc.) that alter tidal movement or damage flora and fauna.

Alaska Regulates activities in its coastal zone under the state Coastal Management Act. Federal lands exempt.

Arizona No specific wetlands protection program.

Arkansas No specific wetlands protection program.

California Statewide Coastal Commission regulates all development activities in the coastal zone, except around San Francisco Bay, which is regulated by BCDC. *See pp. 55–59.*

Colorado No specific wetlands protection program.

Connecticut Permit required for just about any alteration of coastal or inland wetlands, including dredging, removal, fill, and construction. All wetlands mapped. Program administered by local governments. Most agricultural activities exempt.

Delaware Regulates activities in coastal wetlands, including dredging, filling, bulkheading, etc., under its Wetlands Act. Essentially forbids construction of private, nonwater-dependent projects in tidal wetlands. Delaware is developing a freshwater wetlands protection law.

Florida Regulates activities (dredge and fill) in both freshwater and coastal wetlands. *See pp. 50–52.*

Georgia Regulates activities (dredge, fill, and drain) in salt marshes under its Coastal Marshlands Protection Act.

Hawaii Regulates development (dredging, removal, grading, construction, etc.) in the coastal zone under its Coastal Zone Management Act. Permits required from county coastal management authorities. Establishes shoreline setbacks of between 20 and 40 feet for new construction.

Idaho No specific wetlands protection program.

Indiana No specific wetlands protection program.

Illinois No specific wetlands protection program. Regulates some activities in floodways under its Rivers, Lakes, and Streams Act of 1911.

Iowa No specific wetlands protection program. Has active wetlands acquisition program by which state purchases and restores wetlands, primarily prairie potholes. Wetlands protection bill introduced to legislature.

Kansas No specific wetlands protection program.

Kentucky No specific wetlands protection program.

Louisiana Under its State and Local Coastal Resources Management Act, state and/or local permits required for activities (dredge and fill) in coastal wetlands.

Maine Permit required for activities that affect "protected natural resources," including coastal and inland wetlands. Freshwater wetlands under 10 acres exempt. Also, local governments establish setbacks for developments along freshwater and coastal wetlands.

Maryland Two programs: one regulating dredge and fill of tidal wetlands, the other regulating a wide variety of activities (such as removal, alteration, destruction of plants, grading) in freshwater wetlands. Both programs generally exempt agriculture and forestry. Established a no net loss policy for nontidal wetlands.

Massachusetts Wetlands program administered by local conservation commissions. Regulates activities (removal, fill, dredge, and alteration) in both freshwater and coastal wetlands. *See pp. 64–67.*

Michigan The only state to "assume" the federal 404 program. Regulates development in wetlands under a variety of programs. Generally exempts agriculture and recreation. *See pp. 62–64.*

Minnesota Permits required for any work in wetlands, under its Protected Waters and Wetlands Permit Program. Regulates lakes, ponds, cattail marshes, and open water marshes over 10 acres in rural areas and over 2.5 acres in cities. Certain uses prohibited outright, such as filling wetlands for a parking lot. Generally exempts agricultural drainage.

Mississippi Regulates dredging, dumping, filling, destruction of flora, and construction in coastal wetlands. Many activities exempt.

Missouri No specific wetlands protection program.

Montana No specific wetlands protection program.

Nebraska No specific wetlands protection program.

Nevada No specific wetlands protection program.

New Hampshire Permit required for any alteration of coastal or freshwater wetlands. Regulations stricter for coastal wetlands.

New Jersey Regulates development in both freshwater and coastal wetlands. Freshwater wetlands program similar, but broader, than the 404 program. *See pp. 52–55.*

New Mexico No specific wetlands protection program.

program, most states that require a permit for filling or draining wetlands evaluate proposals on a case-by-case basis and approve most permit applications upon the condition of some form of mitigation. In addition, states generally spend most of their limited resources reviewing permit applications and therefore skimp on monitoring and enforcement. Indeed, very few projects are actually monitored. For example, Florida has only one full-time staff person who reviews monitoring reports of mitigation sites.

New York Under a variety of laws, the state regulates development in freshwater and tidal wetlands. Generally, the freshwater wetlands program applies to wetlands of 12.4 acres and larger, all of which the state has mapped. Freshwater wetlands of less than 12.4 acres are covered if of "unusual local importance." Local governments can assume administration of freshwater program, but few have. Agricultural exemptions.

North Carolina Under its dredge and fill act, a permit is required to fill or excavate tidal wetlands. In addition, under its Coastal Area Management Act, the state also regulates development in areas of environmental concern, which include wetlands, estuaries, and floodplains within the coastal zone.

North Dakota Wetlands program focuses on agricultural drainage. Permits required to drain a wetland within a watershed of 80 acres or more. Requires replacement of drained wetland on a one-for-one basis.

Ohio No specific wetlands protection program. Ohio's "antidegradation policy" under its water-quality standards requires mitigation for wetlands alterations permitted by the Corps.

Oklahoma No specific wetlands protection program.

Oregon Under its Fill and Removal Act, a permit is required to fill or remove any material from "waters of the state," which include inland and coastal wetlands. In addition, local governments incorporate statewide planning goals, which include wetlands protection. *See pp. 59–62.*

Pennsylvania Under its Dam Safety and Encroachments Act, the state regulates encroachment on bodies of water, which includes draining, filling, or enlarging wetlands. Regulations are more stringent for "important" wetlands. Exemptions for cutting vegetation.

Rhode Island The state regulates development in both coastal and freshwater wetlands. Coastal wetlands are more stringently regulated than freshwater wetlands. Coastal program establishes six wetlands categories and identifies permitted uses in each. Freshwater program exempts small freshwater wetlands (i.e., swamps under three acres or marshes under one acre).

South Carolina Under its Coastal Management Act, the state regulates activities (dredge, fill, drain, etc.) in "critical areas," which include coastal waters and tidelands. Freshwater wetlands unregulated by the state.

South Dakota No specific wetlands protection program.

Tennessee No specific wetlands act, but the state regulates any alteration to "waters of the state," including wetlands, under its Water Quality Control Act. No development allowed in outstanding wetlands. Most agricultural activities exempt.

Texas No specific wetlands protection program.

Utah No specific wetlands protection program.

Vermont The state Water Resources Board designates "wetlands of state significance" and, instead of requiring permits, the board establishes allowable uses in those wetlands. The board is authorized to regulate activities that threaten state-protected values such as flood control, water quality, wildlife habitat, and aesthetics.

Virginia Regulates activities in coastal wetlands under the Wetlands Act. Permits issued either by state or by local governments that adopt the state's Wetland Zoning Ordinance. The act provides standards and policies for evaluating wetlands development proposals.

Washington Under its Shoreline Management Act, the state regulates development in waters of the state, including wetlands. Although not the main focus of the act, the state has jurisdiction over wetlands associated with tidal areas and over large streams and lakes. Permits issued by local governments, with final approval required by the state. Only local approval needed for very small projects (e.g., projects with a market value under $2,500).

West Virginia No specific wetlands protection program.

Wisconsin Wisconsin's Shoreland Management Program requires each county to adopt state-approved zoning ordinance for shorelands, defined as 1,000 feet from lake or pond and 300 feet from river or stream. The ordinance includes a shoreland–wetlands zoning district, which permits certain activities such as recreation and forestry, and prohibits all others, such as dredge and fill.

Wyoming No specific wetlands protection program.

Sources: Personal conversations with state wetlands program managers— AK, AR, AZ, CA, CO, CT, DE, FL, ID, IL, IN, IA, KS, KY, ME, MD, MA, MI, MN, MO, MT, ND, NE, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SD, TN, TX, UT, VA, WA, WV, WI, WY.
William, L. Want, *Law of Wetland Regulation* (New York, New York: Clark Boardman Company, Ltd., 1989)— AL, GA, HI, LA, MS, NH, NC, SC, VT.
Note: Those states without a specific wetlands protection program generally rely on federal regulation under Section 404 and state water-quality certification under Section 401 of the Clean Water Act.

Developers must obtain both state and federal approval for projects in wetlands, and sometimes the process can be annoyingly duplicative. In general, the Corps will not issue a 404 permit unless the proposed project complies with state laws, including state water-quality certifications and state wetlands laws. Some states, such as Florida, Georgia, Mississippi, and Pennsylvania, conduct joint permit processing with the Corps, and this helps reduce processing time. Other states are headed in the same direction. In North Carolina, if the state issues a permit for dredging and filling in a wetland, the Corps will usually follow suit.

State Mitigation Policies

Only a few states have established formal mitigation policies. Florida usually does not allow off-site mitigation, but it does allow "preconstruction mitigation," that is, mitigation banking. In addition, every mitigation project in Florida above one-tenth of an acre must be put into a perpetual conservation easement to ensure that the mitigated site itself will not be the site of future development. A few state wetlands laws specify the type of plants and the amount of plant cover required at mitigation sites. For instance, in Massachusetts, at least 75 percent of the surface area of the replacement area must be established with native plants.

Some state mitigation policies require a certain minimum ratio of wetlands created to wetlands lost. For example, in New Jersey, the ratio is 2:1, although the state allows mitigation at less than 2:1 (but not less than 1:1) under certain circumstances. In California, the ratio is at least 1:1 and can be considerably higher. In South Carolina, the ratio can be as high as 3:1. Florida usually requires at least 2:1 mitigation, but the ratio varies with each project depending on the likelihood of success, geographical location, and whether wetlands will be created or enhanced. Connecticut's coastal wetlands law is so strict that it does not need a mitigation policy; since 1969, only about five acres of coastal wetlands have been filled.

To avoid costly delays and design modifications, applicants should meet with federal and state agencies to discuss their proposed plans early in the planning stage. It is not unusual for a developer to redesign a project at considerable expense to satisfy a state's requirements to protect wetlands, only to find out later that the project must be modified again to meet the requirements of the Corps or EPA.

SIX EXAMPLES OF STATE WETLANDS PROGRAMS

Of those states administering comprehensive wetlands programs covering activities in both coastal and inland wetlands, a handful stand out as having the toughest, most innovative programs in the country. For example, one state generally allows no more than 5,000 square feet of fill to be placed in a wetland, another has developed a formula to calculate the amount of mitigation required for a particular wetland, and a third classifies wetlands into three categories and sets different development standards for each. This section provides a brief overview of six of these states, whose wetland programs give some indication of where other states may be heading.

Florida:
All in the Coastal Zone

Florida is one of only two states—the other is Delaware—located entirely within the coastal zone as defined by the CZMA.[6] Over 90 percent of the state is within 75 miles of the coast, and its highest point is only 345 feet above sea level; no wonder the state is covered with wetlands. Historically, the state's attitude toward its wetlands was inhospitable. Its philosophy, in short, was dike, ditch, and drain. Florida has a long history of diking, draining, and filling its wetlands for agricultural and urban development. Many of its wetlands and rivers were permanently altered by canals and dikes that crisscross the state. But the Warren S. Henderson Wetlands Protection Act of 1984 turned things around. The act states that "while state policy permitting the uncontrolled development of wetlands may have been appropriate in the past, the continued elimination or disturbance of wetlands in an uncontrolled manner will cause extensive damage to the economic and recreational values which Florida's remaining wetlands provide."[7]

The act directs the Department of Environmental Regulation (DER) to regulate dredging and filling in surface waters of the state, defined as rivers, streams, bays, bayous, sounds, estuaries, lagoons and their natural tributaries, and natural lakes—except those owned entirely by one person or those that become dry each year and are without standing water. The act exempts numerous activities such as maintenance dredging of existing canals, installation and maintenance of boat ramps on artificial bodies of water, construction of seawalls and private docks on artificially created waters, installation of transmission lines, and certain agricultural activities.

DER is not the only state agency regulating activities in wetlands. Florida's Water Management Districts (WMDs) manage the state's surface waters for drinking water and to control floods. DER's jurisdiction extends to excavated water bodies that are connected to waters of the state, but it excludes isolated wetlands. Often, what DER does not cover, a WMD does. Thus, where isolated wetlands of half an acre or greater play a part in water supply or flood control, they fall under the WMD's jurisdiction. In addition, DER may delegate the program administration to the WMDs, as it did in the St. Johns District. And counties may enact wetlands regulations that are broader or stricter than the state's; Hillsboro County, for instance, regulates activities in isolated wetlands.

Permitting

Florida has two kinds of wetlands permits: standard permits for fills over 10,000 cubic yards, and short form permits for fills under 10,000 cubic yards. Both permit applications are filed with DER and both are subject to the same review standards. Upon receipt of an application, DER has 30 days to determine if the application is complete. According to one developer, DER invariably asks for additional information, and on major projects it is not unusual for developers to receive a second request for additional information. According to developers, these demands can add up to 90 days to the processing time. "We have prepared dozens of applications for developers and have never scored an A+ with DER, although we have with the Corps," noted one consultant. "DER always comes back with more questions."[8]

Within 24 hours of receiving a completed application, DER forwards a copy to the Corps and to the county and municipality (and to the Department of Natural Resources (DNR) if state lands are involved) and issues a public notice, usually within 30 days. The Corps may hold a public hearing, and DER may hold an administrative hearing. Generally, DER has 90 days to reach a decision or the application will be automatically approved. Permits are usually issued in 60 to 90 days, but the process may take longer (a year or more) for large or controversial projects. State and federal permit applications are processed simultaneously, but the Corps will not issue a permit if the state permit is denied.

Since 1984, DER has issued about 2,000 permits per year, and annual wetlands losses have ranged from 800 to 1,100 acres. But substantial gains in wetlands acreage have also been achieved. From October 1, 1987, to September 30, 1988, DER issued 2,013 permits that allowed about 933 acres of wetlands to be filled or dredged. Most permits covered alterations of less than five acres. Over 28,000 acres were created, however, during the same period. The tremendous gain in new wetlands resulted from a couple of very large government projects. A permit issued to the Florida Department of Transportation accounted for the largest single loss of wetlands, and a permit issued to a WMD was responsible for the largest single gain. The WMD will recreate over 26,800 acres of wetlands from wetlands that were once diked and converted to agriculture.[9]

In order to obtain a permit, a proposed project must pass two statutory tests: it must not violate state water-quality standards; and it must not be contrary to the public interest. The state public interest test is somewhat like the Corps' and includes an evaluation of the likely impacts of the project on public health and safety, fish and wildlife, navigation, and historical and archaeological resources.

If a project fails to pass the two tests, DER must deny the permit. But if the applicant is willing, and most applicants are, DER will explore a number of project modifications that would reduce or eliminate adverse environmental impacts and allow the project to receive a permit. If, after considering all practical modifications, the project still cannot meet DER's requirements, DER will then entertain proposals to offset the remaining adverse impacts.

Mitigation

DER will consider mitigation only when a project has failed one of the two statutory tests. In other words, mitigation projects will not be considered upfront. DER cannot actually require mitigation, but it does not have to issue a permit either. The goal of mitigation proposals is to offset expected adverse impacts to the point at which projects can qualify for a permit. Each mitigation proposal must include:

- A description of the mitigation area, including a description of the wetland to be created, enhanced, or protected, the type and functions of the wetland, species present, type of vegetation to be planted, plant density, source of plants, soils, and hydrologic regime.
- A planting plan that includes a species list, the proposed plant elevations and plant density for each species, and the source of plants (for example, from a nursery or from adjacent marshes).
- A monitoring plan that includes a timetable for monitoring and reporting, methods of statistical analysis, and criteria for success.
- A description of construction methods, including the equipment to be used, access methods and locations, and site preparation.
- A mitigation cost estimate. If the estimated cost exceeds $25,000, the proposal must include a description of the costs of earthmoving, planting, consultant fees, and monitoring.
- Contingency plans, in case the mitigation is unsuccessful.

In evaluating mitigation proposals, DER will consider the applicant's previous track record with developments in wetlands, the likelihood of success of the mitigation, and whether or not the applicant has sufficient legal interest in the mitigation site and the resources to guarantee that the mitigation will work. In certain circumstances, mitigation proposals will be unable to offset a project's adverse impacts sufficiently to warrant granting a permit; examples might include the presence of endangered species or the probability that a particular wetlands type will not be successfully created.

Permits always specify the mitigation activities that the applicant must perform, the criteria used for determining the success of the mitigation, and the monitoring requirements. DER's very specific criteria for success depend on the type of wetlands being created or enhanced. The criteria usually specify the minimum amount of plant cover required and the maximum amount of exotic plants or weeds allowed on site. For example, a manmade herbaceous wetland will be considered successful when plant cover reaches at least 80 percent of that found in an undisturbed, natural herbaceous wetland that serves as a control; aggressive, weedy plants such as cattail and primrose willow occupy 10 percent or less of the total cover; and the created wetland contains 75 percent of the plant diversity of the control wetland. Similarly, forested wetlands must have an average of at least 400 trees per acre growing above the herbaceous stratum, tree cover shall exceed 33 percent of the total area, and in no single area shall tree cover be less than 20 percent.

DER recognizes essentially two types of mitigation—creation and enhancement—and has established different requirements for each. For created wetlands, the ratio of wetlands created to wetlands destroyed is usually at least 1:1 but depends on the quality and rarity of the wetland, the likelihood of success, and how long it will take before the wetland is established. For example, the ratio for cordgrass marshes or red mangrove swamps could be 1:1, since these wetlands have been created with a reasonable degree of success. But for hardwood swamps or everglade wetlands systems the ratio would be higher to reflect the greater level of uncertainty.

No fixed ratio exists for enhanced wetlands, but DER generally starts at 4:1 and has required as much as 20:1. Enhancement is defined as improving an existing altered or affected wetland by such means as removing exotic or nuisance plants and successfully planting indigenous wetlands species. The mitigation ratio depends on the following factors: the degree to which the enhanced wetland has been stressed; type of stress; the cause of stress; and the likelihood of success of the proposed mitigation. DER believes that, given the limited success of many wetlands creation techniques, the state should encourage enhancement over creation. But, like New Jersey, DER generally requires a greater mitigation ratio for enhancement because it is much cheaper than creation.

Generally, off-site mitigation is acceptable in Florida only if on-site mitigation is not feasible and only if the off-site mitigation is performed in the same water body or within the same drainage basin as the fill site. "In-kind" mitigation is preferred but not required.

DER will also consider as mitigation land conveyances and conservation easements or other such deed restrictions, especially if such actions would preclude development in wetlands that are not protected by DER. DER may also require that the mitigation area be placed in a conservation easement if the site is outside DER's jurisdiction and if DER is not reasonably confident that the applicant will protect the area from development once the mitigation requirement is fulfilled.

According to a DER official, a major problem with the program is that developers often do not do the mitigation work that they said they would. In Florida, it costs about $45,000 an acre to create a wetland, including planning, grading, planting, and monitoring. "Developers can save a lot of money by skipping the mitigation, and some of them do," the DER official complained. In response, DER recently issued a mitigation rule that states, among other things, that for all mitigation estimated to cost over $25,000, developers must put up a performance bond to guarantee that the mitigation will actually occur. In addition, applicants may have to provide evidence that they have the financial resources necessary to correct whatever flaws may arise in the mitigation. Most permits require that the mitigation be performed concurrently with development, but developers with a bad track record will have to do the mitigation work upfront.

Enforcement

Florida devotes very few resources to enforcement. In the state's southwest district, 13 people issue permits but only one checks for compliance—and that person only looks at reports and does not perform field inspections. Field work is undertaken by the five district offices, but only one district (the southwest district) has a full-time permit compliance person. In 1988, the southwest district issued about 900 permits; only about 18 percent of these were monitored for compliance.

Comments

Increasingly, developers are doing such a good job of avoiding wetlands areas that Florida worries about losing too much of its valuable upland, such as mahogany hammocks. One of the problems with Florida's wetlands program, according to a developer, is that DER often becomes preoccupied with preserving even very small wetlands at all costs, while allowing a large, equally valuable upland forest to be destroyed. Upland habitat mitigation is on the horizon. According to DER: "The state needs to address loss of upland habitat before it is too late. If it does not, it will be playing catch-up like it did with wetlands."

New Jersey:
Innovative Approach to Wetlands Regulation

New Jersey has two wetlands programs: one for coastal (or, more accurately, tidal) and one for freshwater wetlands. The coastal program began in 1970 following enactment of the Wetlands Act, and was expanded in 1973 with enactment of the Coastal Area Facility Review Act (CAFRA). The freshwater wetlands program began only a few years ago with the Freshwater Wetlands Protection Act (FWPA) of 1987. New Jersey's coastal and freshwater wetlands programs, administered jointly, are much broader than either the federal Section 404 program or most state programs.

In two regions of New Jersey, the Hackensack Meadowlands and the Pinelands, wetlands are exempt from both the freshwater and coastal wetlands programs. Both the Meadowlands—a vast, marshy area in northeastern New Jersey—and the Pinelands—a large, ecologically unique and relatively undeveloped area in south-central New Jersey—are governed by special commissions that develop comprehensive plans and regulate growth in their respective jurisdictions.

The (coastal) Wetlands Act of 1970 applies to dredging, filling, draining, removal, and excavation of material from coastal wetlands, which are defined as "any bank, marsh, swamp, meadow, flat or other low-lying land subject to tidal action. . . ." FWPA covers many of the same activities as the Wetlands Act, but it also applies to any destruction of plant life, including tree cutting, that would alter the character of a freshwater wetland. CAFRA applies to a broad range of activities in the coastal area—which runs from the Raritan Bay down to Cape May, around the Delaware Bay and up along the Delaware River—such as construction of power plants or waste-treatment facilities, as well as construction of 25 or more housing units.

FWPA is much longer and more detailed than either of the coastal acts. It reflects former Governor Tom Kean's strong interest in wetlands protection and the extensive public debate that led to the bill's enactment. Kean, who chaired The Conservation Foundation's National Wetlands Policy Forum, pulled out all the stops to get the freshwater wetlands law passed. In June 1987, he imposed a temporary building moratorium in freshwater wetlands until an uncooperative legislature enacted a comprehensive wetlands bill. By the end of the month, the legislature had conceded, and the moratorium was lifted when Kean signed the bill on July 1, 1987.

Kean used similar tactics to try to coerce a recalcitrant legislature into creating a coastal commission that, like California's, would have broad authority to regulate development along the coast. In October 1988, Kean issued a "certificate of imminent peril" that put emergency regulations into effect for 60 days and halted construction of housing in coastal areas. Digging all the way back into New Jersey's legislative history to the Waterfront Development Act of 1914, the governor found the authority to regulate coastal development within 50 feet of the normal high-water mark. In November 1988, the New Jersey Department of Environmental Protection (New Jersey DEP) adopted permanent regulations that fill some of the regulatory gaps in CAFRA. For example, many developers avoided the CAFRA restrictions by keeping their projects below the 25-unit threshold. With its finer mesh net, however, the new rules scoop up many of the smaller projects that slipped through CAFRA.

In 1989, a bill that would establish a coastal commission was introduced in the state senate. The proposed coastal commission would develop a comprehensive plan to protect coastal resources, including wetlands, and manage development in the CAFRA zone. One of the goals of the commission would be to increase the total acreage of viable wetlands. The 17-member commission would be comprised of commissioners from several state agencies, such as DEP, and governor-appointed representatives from the building, fishing, and tourism industries and from environmental groups.

FWPA is designed to be tough enough to meet federal standards for delegating primary authority for wetlands regulation from the Corps to the state. The act requires the state to "take all appropriate action" to secure assumption of the permit jurisdiction exercised by the Corps.[10] For consistency, the act incorporates many of the same features and definitions of the federal 404 program; designation of freshwater wetlands, for instance, is based on hydrology, soils, and vegetation, just like the 404 program.

Both laws exempt certain agricultural activities. FWPA exempts many of the same activities as the federal program, such as normal farming, silviculture, and ranching activities, while the Wetlands Act exempts existing commercial agricultural activities, such as production of salt hay.

Permitting

New Jersey has established three classes of freshwater wetlands—exceptional, ordinary, and intermediate—with different levels of building restrictions for each category. The classification is based on "resource value" (that is, a wetland's value for such things as wildlife habitat as opposed to its economic value). The exceptional class includes wetlands that either discharge into waters where trout spawn or that provide habitat for endangered or threatened species. The requirements for development in this category are very strict, and, according to one New Jersey DEP official, "developers should not even bother trying to get a permit for exceptional wetlands." The ordinary class includes any isolated wetland that is smaller than 5,000 square feet and that is surrounded by development on at least 50 percent of its borders, as well as drainage ditches, swales, and stormwater detention facilities. The intermediate category includes every other type of wetland.

DEP also regulates certain activities (removal, excavation, disturbance, and so on) in a buffer or transition zone around exceptional and intermediate wetlands. The transition zone is 75 to 150 feet for exceptional wetlands and 25 to 50 feet for wetlands in the intermediate class. If, however, an applicant can prove that the proposed activity will have no substantial impact on the adjacent freshwater wetland, or that prohibition of the activity will cause undue hardship, then DEP may grant a waiver to reduce the size of the transition zone—but not below the minimum widths of 75 or 25 feet.

FWPA incorporates many of the provisions of EPA's Section 404(b)(1) guidelines, such as the water dependency and practicable alternative tests. For instance, permits shall not be issued for nonwater-dependent activities unless no practicable alternatives can be found, or for activities that will jeopardize endangered species, adversely affect ground or water quality, or are not in the public interest. New Jersey's definition of practicable alternatives is almost identical to EPA's.

FWPA established a set of rebuttable presumptions that a practicable alternative exists for any nonwater-dependent activity, and that such an alternative would have a less adverse impact on the aquatic environment. In order to rebut these presumptions, the applicant must demonstrate: one, that the proposed project cannot reasonably be accommodated on other sites in the general region; two, that the basic purpose of the project cannot be accomplished if the project is reduced in size, scope, configuration, or density; and three, that the applicant has made a reasonable attempt to overcome any constraints, such as zoning or infrastructure, that may have precluded the use of alternative sites. For development proposals in wetlands classified as exceptional, the applicant must also demonstrate that the proposed project will meet a compelling public need or that denial of a permit would impose an extraordinary hardship on the applicant. The rebuttable presumptions pose significant hurdles for developers to overcome. According to one New Jersey developer, in order to get a permit, you have to jump through several hoops that get progressively smaller. The stringent criteria essentially limit development in exceptional wetlands to public projects such as road construction.

New Jersey does not have a formal joint permit process with the Corps, but it does regularly review and comment on pending projects with the Corps and federal resource agencies.

The criteria for developing in coastal or tidal wetlands resemble those that apply to development in freshwater wetlands. The Wetlands Act of 1970 does, however, make no distinction among wetlands types (there is no classification scheme), nor does it require regulation of a buffer zone' although DEP, through CAFRA, does require buffers around coastal wetlands for projects needing a CAFRA permit. DEP prohibits development in coastal wetlands unless a proposed project will fulfill four criteria: it is water dependent; it has no prudent alternatives on a nonwetland site; it will result in a minimal alteration of natural tidal circulation; and it will result in minimal alteration of the natural contour or the natural vegetation of a wetland.

Mitigation

In general, DEP requires a 2:1 mitigation ratio for both coastal and freshwater wetlands, although it allows ratios as low as 1:1 under certain circumstances. The mitigation must be performed prior to, or concurrent with, activities that will permanently disturb wetlands, and immediately after activities that will temporarily disturb them. New Jersey distinguishes between four types of mitigation—restoration, creation, enhancement, and contribution—with a different ratio of required mitigation for each. For restoration, which includes "actions taken to recreate wetlands characteristics, functions, and habitat" that were affected by construction, and for creation, the ratio is 1:1—although, according to one DEP official, 2:1 is usually required. For enhancement, however, the ratio is 7:1. One reason why creation, which is generally perceived as the riskiest of all mitigation options, is only 2:1 whereas enhancement is 7:1 is that creation is much more expensive. In most states (though not in Florida) it is the other way around, with creation commanding the highest ratio. After all other mitigation options have been exhausted, applicants may donate land or money to a mitigation bank, which is not yet open for business.

DEP may require creation or restoration of a freshwater wetland of "equal ecological value" to the wetland that was lost. Equal ecological value is defined as "functional equivalency, including similar wildlife habitat, similar vegetative species coverage and density, [and] equivalent flood water storage capacity;"[11] however, no standards or guidelines have yet been established. DEP demands on-site mitigation where possible, but, after consultation with EPA, DEP may allow off-site mitigation if a developer either guarantees that no future development will occur on the mitigation site or makes a contribution to the wetlands mitigation bank. Contributions to the mitigation bank are based on the cost of purchasing and either creating or restoring a freshwater wetland of equal ecological value.

The mitigation bank is governed by a seven-member mitigation council composed of the governor and six members appointed by the governor with consent of the senate—two from the building and development industry, two from environmental groups, and two from institutions of higher learning. The council, which is responsible for using the funds of the mitigation bank to finance mitigation projects, is authorized to buy degraded wetlands that can be restored and to preserve critical wetlands and transition or buffer areas. In 1989, the council asked leading members of the development community if they would be interested in establishing a mitigation bank. Developers balked, however, at setting up a mitigation bank without some assurance that DEP would allow development in wetlands.

With their permit applications, developers must submit a mitigation proposal that includes:

- a monitoring and maintenance plan to ensure 85 percent survival of wetlands plants and 85 percent plant coverage for at least three years;
- a schedule of completion; and
- a description of the site's proposed hydrology.

Enforcement

For illegal activities in freshwater wetlands, DEP may assess civil penalties of up to $10,000 per day of violation, and up to $25,000 per day for those who willfully or negligently violate the act. In the first year of FWPA's operation, two administrative penalties were assessed, both for $250,000. In coastal wetlands, violators may be fined up to $1,000 per day and are liable for the cost of restoring the wetland to its prior condition. In 1988, 85 administrative penalties were assessed for a total of $57,650 for both coastal programs—CAFRA and the Wetlands Act of 1970.

Comments

New Jersey's wetlands programs stand out from those adopted by other states. In such a heavily industrialized, densely populated state, it is remarkable that so many wetlands still remain. New Jersey's classification of freshwater wetlands is unique. Like some SAMPs, New Jersey's freshwater wetlands program essentially classifies wetlands as suitable or unsuitable for development and establishes requirements for different types of mitigation. The classification puts developers on notice that exceptional wetlands are off-limits to development unless unusual circumstances exist. Developers have already felt the impact of the fledgling freshwater wetlands program. According to one New Jersey DEP official, most developers either steer clear of wetlands or keep their fill to an absolute minimum in order to qualify for a general permit.

Although it is not yet active, the mitigation bank also sets New Jersey apart from most other states. And if the proposed coastal commission is ever established, New Jersey will join the small club of states who have such commissions. The commission could streamline the permit process for the coastal area by providing "one-stop shopping;" alternatively, as its critics contend, the commission could just add another layer of bureaucracy to the development process.

California:
Two Programs for the Coast

California has always thought of itself as a trendsetter. Besides Oregon, it was the only state with a coastal zone management program before 1972, the year in which the federal Coastal Zone Management Act was enacted. With over 1,100 miles of varied coastline, it is not surprising that California took the lead in regulating coastal activities. Despite heavy losses of coastal wetlands, primarily due to agricultural conversion, California still possesses nearly 90,000 acres of salt marshes, more than four times the acreage of salt marshes in Oregon and Washington combined. Unlike several other coastal states, California has not adopted laws specifically to protect either its coastal wetlands or what remains of its inland wetlands. Instead, it strictly regulates activities within the coastal zone, including development in coastal wetlands, under the state's federally approved Coastal Zone Management Program, and leaves control of inland wetlands to the Corps.

California is unusual in that two separate agencies with different enabling legislation monitor distinct geographical regions of its coastal zone. The San Francisco Bay Conservation and Development Commission (BCDC) regulates activities along the coast of the San Francisco Bay while the California Coastal Commission (CCC) covers the rest of coastal California. BCDC was established as a temporary agency in 1965 and made permanent in 1969 following enactment of the McAteer-Petris Act. Likewise, CCC, which was modeled after BCDC, was established temporarily in 1972 and permanently in 1976 with enactment of the California Coastal Act. In 1977, both coastal programs were among the first state programs approved by the U.S. Department of Commerce under the federal Coastal Zone Management Program.[12]

BCDC was set up primarily to regulate uncontrolled filling of the Bay and to increase public access to the shoreline. It has permit authority over development within the Bay and, with few exceptions, issues permits for water-dependent uses only. BCDC's jurisdiction includes all of San Francisco Bay, certain creeks and sloughs that are part of the Bay estuary, salt ponds, and

Development abuts a salt marsh in the San Francisco Bay. Although regulated by BCDC and the Corps, these wetlands often receive polluted runoff from roads and parking lots.

some other areas that have been diked off from the Bay and are now used for duck clubs, game refuges, or agriculture. All other wetlands located behind existing dikes are excluded from its jurisdiction, and according to Robert Batha, environmental planner for BCDC, "People can do just about whatever they want behind the dikes as long as they provide public access to the beach."[13]

Unlike the limited jurisdiction of BCDC, CCC exercises sweeping authority over virtually all types of development along the California coast within 1,000 yards of the shore, and is the principal agency involved in regulating development in the coastal zone, including development in wetlands and associated habitat areas located in this zone. Guided by the 1976 California Coastal Act, which directs the commission to limit development in wetlands by encouraging development in more urbanized areas, CCC regulates a broad range of activities, from enlarging a house to siting industrial facilities and ports. "In many ways," notes one observer, "the CCC is not so much a coastal management agency as it is a state comprehensive land use planning and regulatory agency that has jurisdiction over some of this nation's most complex urban problems, fastest growing areas, and most expensive real estate that just happens to be along a coastline."[14]

Initially, CCC sought to create a comprehensive plan for the state's coastal zone and to regulate coastal development through a permit process. CCC retains authority over development in the coastal zone until local governments adopt coastal plans and ordinances that are consistent with the California Coastal Act. Once CCC certifies the plan, the local government can assume its own permitting responsibilities. By 1989, nearly all local plans were approved by the commission.

When it established CCC in 1976, the California legislature also created a nonregulatory agency, the Coastal Conservancy, to resolve conflicts over use of the state's coastal resources. A project-oriented agency with no permitting authority, the conservancy is authorized to buy land, shift development rights, improve beach access, and restore coastal resources such as sand dunes and wetlands. Typical projects include revitalizing aging waterfronts, restoring diked, tidal wetlands, purchasing shorefront property for parks and open space, and building public access ramps to the beach.

A History of Wetlands Losses

California has lost a large proportion of its wetlands. In the central valley alone, some experts estimate that over 90 percent of the freshwater wetlands were destroyed when most of the valley was converted to farmland. Coastal wetlands fared little better. San Francisco Bay alone has lost over 80 percent of the wetlands that it contained 100 years ago, leaving little more than 100 square miles of tidal marsh undiked.[15] Outside San Francisco Bay, California once contained over 300,000 acres of coastal wetlands; today only about 80,000 acres remain.[16] In addition to those wetlands lost, many were seriously altered through sedimentation and/or filling. Although it is not their primary purpose, both BCDC and CCC have helped to stem the tide of wetlands losses within the coastal zone by controlling development in wetlands and requiring creation of new wetlands or restoration of old ones when filling occurs.

Permitting

The California Environmental Quality Act (CEQA) of 1971 plays an important role in virtually every development in the state and particularly in its coastal zone. Under the act, a local government agency reviews a development proposal to determine if a proposed project is subject to CEQA. Certain activities, such as repair and maintenance of existing facilities, are categorically exempt. If a project is not exempt, then the local or "lead" agency will conduct an "Initial Study" to determine whether or not the project will have a significant impact on the environment. If it will not, then the developer can breathe a sigh of relief. If it will, then the agency must prepare an environmental impact report (EIR), which is not unlike an EIS under the National Environmental Policy Act. The EIR evaluates all the possible environmental impacts of a proposed development, determines if feasible, less environmentally damaging alternatives exist, and develops possible measures that would mitigate adverse impacts. Under CEQA, a public agency cannot approve a project if development on an alternative site could substantially lessen the environmental impacts or without incorporating mitigation measures that would have the same effect. Typically, the coastal agencies begin their review of a project after the EIR is complete—a policy that irks most developers who feel that they have already conducted sufficient environmental reviews and who have often made substantial changes to their original plans in order to satisfy the regulatory agencies.

With few exceptions, both agencies will allow wetlands filling only for water-dependent projects, such as ports, water-related industries, bridges, and water-oriented recreation, and only if no practical alternatives exist or if a project will increase public access to the shore. BCDC will also approve projects that improve shoreline appearance. Generally, both agencies conduct a public interest review to determine whether or not the public benefits of a proposed project clearly outweigh the public detriments. Any project that does not show a net benefit to the public will be rejected. In addition, CCC will not approve projects that jeopardize the "functional capacity" of a wetland, which is defined as the ability of a wetland or estuary to be self-sustaining and to maintain a diversity of species. In order to protect environmentally sensitive areas from off-site development impacts, CCC further requires that a project include buffers to separate such areas from development. The commission's goal is to create a "no-man's-land" that shields sensitive environments from urban development. Development within buffer areas is limited to access paths, fences, and similar uses that have either beneficial effects or at least no significant adverse impacts. Buffer width varies with each project, but is usually at least 100 feet.

BCDC's permits fall into two categories: minor projects, such as routine maintenance dredging, installation or repair of stormwater or wastewater outfall pipes, or levee stabilization work; and major projects, like expanding a boat-storage facility, constructing a hotel at the site of an abandoned warehouse, constructing a marina, or installing riprap and bulkheads for shoreline protection. Unless problems are encountered, the time taken to obtain a permit for a minor project varies from one to two months, and for a major project is about three months, although it sometimes takes longer. BCDC boasts of administering one of the speediest regulatory programs in the state. Under the provisions of the McAteer-Petris Act, if BCDC fails to act within 90 days of the filing of a permit application, the permit will be automatically granted. Although the commission occasionally fails to meet the deadline, no permits have been automatically issued. According to BCDC, a delay in processing an application usually reflects the commission's objection to the proposed project, and an extension is offered to grant the applicant additional time to modify the proposal so that it may ultimately be acceptable to the commission.

BCDC receives roughly 20 to 30 applications each year for major projects and about 100 to 140 for minor projects. It approves the great majority of projects, although all approvals include conditions to ensure that any adverse impacts on the Bay are minimized. (Likewise, the San Francisco District Office of the Corps issues permits for over 98 percent of the applications it receives, although two-thirds of the applications are modified before being approved.) Between 1970 and 1988, the commission granted 362 major and 1,938 minor permits and denied only 18 and 10 respectively (see Figure 3.2). BCDC has been in existence for over 20 years, and by now most people know not to bother applying for a permit to fill Bay wetlands for nonwater-dependent projects.

Scarcity of Mitigation Sites

In 1973, BCDC first required mitigation for Bay fill. Since then, it has substantially improved public access and significantly reduced wetlands filling. From 1974 to 1988, the commission allowed about 265 acres of wetlands to be filled and, in return, required creation or restoration of 1,134 acres, for an overall mitigation ratio in excess of 4:1.

Both BCDC and CCC rely on mitigation to offset adverse impacts of development. Mitigation cannot, however, make a project acceptable if it does not meet all the requirements of the McAteer-Petris Act or the California Coastal Act. Mitigation typically involves either restoring diked wetlands by breaching the dikes to reopen the area to tidal action or enhancing existing tidal marshes by removing debris and constructing channels to improve water circulation and drainage.

Although CCC typically requires mitigation at a 1:1 ratio, it can demand up to 4:1, and some developers do more. One commission official noted that he had not seen anything less than 1:1, and, in an extreme case, one public project's mitigation-to-fill ratio was 400:1.

19-YEAR SUMMARY OF PERMITS, FILL, AND MITIGATION IN SAN FRANCISCO BAY

Year	Major Permits Granted	Major Permits Denied	Minor Permits Granted	Minor Permits Denied	Fill Authorized (Acres)	Mitigation Required (Acres)	Net Change (Acres)
1970	12	1	66	0	72.0	0.0	–72.0
1971	26	4	61	0	25.1	0.0	–25.1
1972	12	3	80	0	7.0	0.0	–7.0
1973	17	1	71	0	4.4	0.0	–4.4
1974	20	0	107	1	83.0	357.0	+274.0
1975	10	0	87	0	0.0	5.0	+5.0
1976	14	0	110	0	2.2	0.0	–2.2
1977	20	0	116	0	27.7	44.5	+16.8
1978	23	1	104	4	7.8	5.9	–1.9
1979	34	0	120	2	17.8	21.2	+3.4
1980	19	1	105	1	25.4	55.4	+30.0
1981	23	0	134	0	5.1	49.6	+44.5
1982	26	0	104	0	24.0	286.0	+262.0
1983	23	0	105	0	4.0	9.0	+5.0
1984	15	3	135	0	17.0	29.0	+12.0
1985	15	1	98	0	30.0	90.0	+60.0
1986	20	0	108	0	11.4	22.4	+11.0
1987	16	2	108	0	5.4	3.4	–2.0
1988	17	1	119	2	4.7	156.9	+151.3
Totals	362	18	1,938	10	374.0	1,134.4	+760.4

Note: Some authorized projects have not been built, and some projects may have been changed pursuant to amendments to permits.
Source: San Francisco Bay Conservation and Development Commission, "1988 Annual Report," issued January 1, 1989.

Although BCDC's policy is that mitigation should be at least 1:1, it has not established a specific mitigation ratio or formula. Instead, it prefers to fix mitigation requirements on a case-by-case basis, assembling an individual mitigation package for each project. One consultant in San Francisco stated that BCDC usually requires 2:1 mitigation and occasionally 4:1, but can require as much as 10:1. BCDC prefers in-kind, on-site mitigation but has approved projects involving off-site or out-of-kind mitigation. Both agencies generally stipulate that mitigation must occur prior to or concurrently with development, and the agencies suggest that developers submit restoration and management plans with their permit applications. The CCC interpretive guidelines state that, "at a minimum, the permit will be conditioned to assure that restoration will occur simultaneously with project construction."[17] Moreover, restoration must occur within the same general region (within the same stream, lake, or estuary) where the fill occurred.

Until recently, CCC allowed previously diked wetlands to be converted back to a tidal marsh in order to meet its requirements for mitigation. Now, though, CCC recognizes that these wetlands provide valuable wildlife habitat, albeit often only seasonally, and developers must create wetlands out of upland to compensate for altering coastal wetlands. With fewer sites to choose from, finding suitable mitigation sites has become a never-ending quest for some developers. Most areas around the Bay are either protected, already developed, or very expensive. South San Francisco Bay is currently experiencing extreme development pressure, and an acre of diked wetlands can cost $300,000. A study commissioned by BCDC found that five of 14 projects reviewed were delayed because the permittee was unable either to find or to acquire a suitable restoration site.[18] As a result of this dearth, developers have looked towards less expensive upland sites in the North Bay. Many of these relatively cheap sites are former wetlands that were diked years ago and converted to agriculture; changing them back to wetlands is often as easy as breaching a dike to return tidal flow. A few developers have purchased or taken options to buy these diked wetlands as possible mitigation sites for future projects.

According to an attorney in San Francisco, since 1984, BCDC has operated a de facto no-net-loss policy that effectively rules out wetlands enhancement. Given the scarcity of suitable mitigation sites around the Bay and BCDC's antipathy to enhancement, it is virtually impossible to obtain approval to fill wetlands in the Bay. BCDC contends that it has no policy forbidding wetlands enhancement, but it simply recognizes that other agencies will likely disapprove any development involving wetlands enhancement as mitigation for fill. With the exception of the Oakland Airport expansion, which is a public project, no sizable wetlands development has been approved in Bay wetlands since 1984.

Monitoring and Enforcement

Both BCDC and CCC lack the resources to conduct any significant degree of on-site monitoring. (Perhaps this is one reason why, according to an official with CCC, mitigation has not been very successful in California.) Instead, their staffs focus on investigating and prosecuting unauthorized fills. CCC did set up a system for "self-monitoring" by professionals, and the commission requires annual reports, prepared and submitted by independent consultants, on the success or status of each mitigation project. However, a review of 14 BCDC-permitted projects revealed that in only three cases was the permittee required to monitor the restoration (only one had actually done any monitoring) and that in only two cases was the permittee required to maintain the stipulated improvements to ensure that the restoration project functioned as designed.

Like monitoring, enforcement receives short shrift—chiefly because of the limited resources of both BCDC and CCC. Both commissions can in theory issue cease and desist orders, require corrective measures, and impose civil penalties. BCDC may issue penalties of between $10 and $1,000 per day for a violation of either the McAteer-Petris Act or a permit condition, with a total maximum penalty of $20,000. In 1988, four penalties totalling $8,700 were imposed. According to BCDC, in practice, enforcement cases are resolved satisfactorily through voluntary compliance or by issuing or amending a commission permit.[19]

Different Roles, Different Reputations

By most accounts, BCDC has been very successful in its limited mission and jurisdiction. By requiring developers to reopen diked areas to tidal action as a condition for approving new Bay fill, the commission has enlarged the open waters of San Francisco Bay and increased the amount of Bay shoreline open to public access from only four miles to over 100 miles.[20] BCDC is well respected by both developers and conservationists as an even-handed and efficient keeper of the Bay's resources.

By contrast, CCC has become a controversial and often unpopular agency. Bills are frequently brought before the state legislature to abolish, or at to least to cripple, the agency. Environmentalists accuse CCC of bowing too often to pressure from developers; local governments resent a state commission meddling in local affairs; and developers generally find the commission's requirements both unpredictable and excessive. Given the commission's Herculean task of regulating development along the entire California coast (save for San Francisco Bay), such unpopularity is hardly surprising. In its attempt to balance various competing interests, CCC has upset almost everybody at one time or another, which may be one indication that the agency is doing its job well.

Besides BCDC and CCC, two other state agencies play important roles in regulating development in wetlands: the State Department of Fish and Game, and the State Water Resources Control Board. The Department of Fish and Game comments on applications for both state and federal permits, and the water resources board, which is responsible for protecting the quality of certain waters in the Bay area, reviews and certifies Corps permits for compliance with state water-quality standards. Both state agencies have adopted a no-net-loss policy for wetlands.

Oregon:
Emphasis on the Estuaries

The first state to adopt a state planning law and one of the first to protect its coastal wetlands, Oregon's wetlands program is very similar to the federal program. Indeed, Oregon initially seriously considered assuming the federal Section 404 program, but decided that it was not worth the effort, even after EPA changed its rules to make it easier for states to do so. According to a state official, "EPA's rule change did not change anything"—the Corps would still have retained authority over navigable waterways and adjacent wetlands, which is where most permit problems in Oregon occur. For example, in the first quarter of fiscal year 1988, nearly 90 percent of the permit actions delayed more than 60 days were in those areas where the Corps would have retained its authority.[21]

Under Oregon's Removal-Fill Law (O.R.S. 541.605–541.695 and 541.990, September 1985), a permit is required from the Division of State Lands (DSL) to fill or remove material from "waters of the state," which include all tidal and nontidal bays, streams, lakes, and "other bodies of water in this state, navigable and non-navigable." The law applies to removals or fills of 50 cubic yards or greater and covers activities in both coastal and freshwater wetlands, including isolated wetlands.

Permitting

Like the federal program, Oregon's program prohibits the issuance of a permit unless: one, no "practicable alternative" exists to the proposed fill that would have less adverse impact; two, the project will not cause "significant degradation of municipal water supplies, aquatic life and habitats;" and, three, "appropriate and practicable" steps have been taken to minimize adverse impacts. In addition, DSL is required to issue a permit to remove material from a wetland if the removal will not be "inconsistent with the protection, conservation and best use of the water resources of this state. . . ."[32]

Once DSL receives an application, it issues a public notice, reviews any comments it receives, and decides whether or not to issue a permit according to such factors as the environmental and economic consequences of the proposed removal or fill, its effect on health, safety, and welfare, and on water quality and quantity. Before a permit is issued, DSL must determine that the proposed fill will be consistent with state-acknowledged local comprehensive plans.

As in the federal program, the state can also issue after-the-fact permits (although, according to one DSL official, such permits are uncommon). After-the-fact permits are only considered if: the project has caused no harm to the state's water resources; the project has been completed in its entirety; the responsible person had no knowledge of the permit requirements; and the project meets other permit requirements. DSL strongly discourages nonwater-dependent activities and permits them only if the fill (the rules do not mention nonwater-dependent removals) is for a public use and if the public need outweighs the harm to navigation, recreation, and fisheries. The state can also close off certain wetlands areas to development in advance of a permit request. But it cannot classify or designate areas as suitable for development, as EPA can under the Clean Water Act.

The state receives roughly 1,000 applications per year and approves about 98 percent of them. Most applications are for small fills, such as routine pipeline crossings and placement of riprap. All applications have conditions attached to them by the state to minimize adverse impacts. A permit application normally takes between 45 and 60 days to process, although permits for problem sites can take 90 days or more. DSL and the Corps process permits jointly, which helps avoid duplication. A local consultant commented that whereas the state processes permits fairly quickly, usually within 60 to 90 days, the Corps is notoriously slow and often delays a project for several months. DSL does not recognize the Corps' nationwide permits and still requires an applicant to obtain a state permit for areas that are covered by a Corps nationwide permit.

Mitigation

Although the permit program applies to both tidal and nontidal wetlands, the mitigation requirements for tidal fills are more stringent, and the standards are more explicit. Oregon, like other coastal states, guards its tidal wetlands more carefully than nontidal wetlands. The state usually only requires mitigation for "significant fills" in nontidal wetlands, but it has not established clear standards or guidelines for the amount of mitigation required. According to one consultant, mitigation for development in nontidal wetlands is generally determined on a 1:1 basis, although the trend is towards requiring more than 1:1. DSL enjoys broad discretion in the issuance of permits for development in nontidal wetlands and in the requirement of mitigation.

For projects in tidal or intertidal wetlands, each application for fill or removal must be accompanied by a mitigation plan. Under certain circumstances, DSL can waive the mitigation requirements—for example, if the mitigation is unfeasible or if the economic and public benefits outweigh the potential degradation to the estuary. Mitigation must occur in the same estuary as the removal or fill.

DSL encourages, but does not require, in-kind mitigation. Its rules for estuarine mitigation state that mitigation shall maintain diversity of habitat and species; however, the law does not mandate that every habitat and species be replicated by the proposed mitigation. In fact, DSL often requires a different type of vegetation in mitigation projects than existed in the wetland that was filled. For example, although the state regulates development in reed canary grass mashes and requires mitigation when such mashes are filled, it generally demands that other types of wetlands be created in their place.

In estuarine areas, the amount of mitigation required will be proportionate to the relative value of the habitats involved. The state evaluated the various habitat types found in its estuaries in terms of biological productivity and species diversity and devised a set of relative values from a scale of one to six for each type; for instance, a marine or brackish seagrass marsh is assigned a value of six, but an unvegetated wetland receives only a two or three. Oregon has adopted a no-net-loss estuarine mitigation policy: the mitigation ratio will be at least 1:1 and in some cases as high as 6:1. The values, shown in Figure 3.3, are fed into an equation to determine how much area of one habitat is needed to mitigate each acre of another habitat lost to removal or fill. Under certain circumstances, the director of DSL may adjust the relative values, up or down, by up to 25 percent. The equation is as follows:

$$AM = (RVd/RVm)(AD),$$

where AM = area of mitigation site;
RVd = adjusted relative value of the development site;
RVm = adjusted relative value of the mitigation site;
and AD = area of development site.

The advantage of this system is that developers can compute, in advance, the amount of mitigation that will be required for a given fill or removal in a given area. It gives developers the predictability that they complain most wetlands programs lack. In addition, the system also provides economic disincentives to removals or fills in high-value estuarine areas.

Enforcement

Only seven DSL staff members monitor permitted projects for compliance. According to one DSL official, however, most projects are checked for compliance. An applicant must notify the state when the mitigation begins and must also submit an annual monitoring report for the first three to five years. One DSL official estimated that about 100 unpermitted fills or removals take place each year, but, because of the state's monitoring program, far fewer permit violations occur.

DSL may take a number of actions against those who violate the state removal-fill law. It can assess civil penalties and/or force the violator to remove the fill and restore the site. But, according to one state official, "about 80 percent of violations are small removals or fills from people who unwittingly violate the rules," and the state usually treats such people leniently and prefers to negotiate a voluntary settlement where the violator will rectify the damage done.

DSL, which can impose civil penalties of up to $10,000 per day of violation, uses the following formula to compute the amount of the civil penalty:

$$\text{Penalty} = \$B(V \times P \times C \times I).$$

B is a base fine, equal to the permit application fee. V represents the wetland's recreational, biological, navigational, or fisheries value. Wetlands with a minor resource value, including wetlands with a history of dis-

FIGURE 3.3

RELATIVE VALUES[1] OF SELECTED ESTUARINE HABITAT TYPES IN OREGON

OREGON ESTUARIES (EXCEPT THE COLUMBIA RIVER)

GENERALIZED SUBSTRATE CHARACTERISTICS	GENERALIZED PRODUCTIVITY CHARACTERISTICS										SALINITY REGIME
	SUBTIDAL HABITATS			INTERTIDAL HABITATS							
	UNVEGETATED	ALGAE	SEAGRASSES	UNVEGETATED	ALGAE	SEAGRASSES	LOW MARSH	HIGH MARSH	FORESTED WETLAND		
ROCKY–BEDROCK (Max. Grain Size > 256 mm)	1.0	2.0	–	1.0	2.0	–	–	–	–		FRESH
	2.0	3.0	–	2.0	3.0	–	–	–	–		BRACKISH
	2.0	3.0	–	2.0	3.0	–	–	–	–		MARINE
COBBLE–GRAVEL (Grain Sizes from 1.0 mm to 256 mm)	1.0	2.0	4.0	1.0	2.0	4.0	4.0	3.0	3.0		FRESH
	2.0	3.0	6.0	2.0	3.0	6.0	5.0	4.0	–		BRACKISH
	2.0	3.0	6.0	2.0	3.0	6.0	5.0	4.0	–		MARINE
SAND (75% Grain Sizes from 0.0625 mm to 1.0 mm)	2.0	3.0	4.0	2.0	3.0	4.0	4.0	3.0	3.0		FRESH
	3.0	4.0	6.0	3.0	4.0	6.0	5.0	4.0	–		BRACKISH
	3.0	4.0	6.0	3.0	4.0	6.0	5.0	4.0	–		MARINE
SANDY–MUD	2.0	3.0	4.0	2.0	3.0	4.0	4.0	3.0	2.0		FRESH
	3.0	4.0	6.0	3.0	4.0	6.0	5.0	4.0	–		BRACKISH
	3.0	4.0	6.0	3.0	4.0	6.0	5.0	4.0	–		MARINE
MUD (75% Grain Sizes < 0.0625 mm)	2.0	3.0	4.0	2.0	3.0	4.0	4.0	3.0	3.0		FRESH
	3.0	4.0	6.0	3.0	4.0	6.0	5.0	4.0	–		BRACKISH
	3.0	4.0	6.0	3.0	4.0	6.0	5.0	4.0	–		MARINE

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[1] Relative values are based on natural biological productivity and species diversity of specific habit types. A "–" means the habitat type probably does not exist.

Source: Oregon Division of State Lands, *Estuarine Mitigation: The Oregon Process* (Salem, Oregon: author, April 1984), p. 16.

turbances or physical alterations, are assigned a value of one. Those with an average resource value are given a three, while wetlands with major resource value, for example, those that contain salmon or trout spawning areas or important waterfowl habitat, are given a four. P represents a violator's prior knowledge of the removal and fill law. For those with no prior knowledge, the figure is one; for those with prior knowledge, three; and for those who previously violated the removal and fill law, five. C, the cooperation value, represents a violator's efforts to correct the violation. It ranges from 0.5 for those who are cooperative to 2.0 for the uncooperative. I, the impact value, is a measure of the impact that the removal or fill will have on water resources. For minor impacts, the value is two; for average impacts, three; and for major impacts, four.

Miitigation Banking

In 1987, the state enacted a Wetlands Mitigation Banking Act, which authorized DSL to establish four pilot mitigation banks by July 1991. The banks will be used only for relatively small removals or fills—five acres or less—and only after all practical on-site mitigation methods have been exhausted. DSL is developing rules and criteria for selecting sites and for managing and evaluating the banks. As of December 1989, no pilot mitigation banks had been established, although a mitigation bank was previously established in Astoria, on the northern coast of Oregon.

Courtesy MI

Galien River as it winds through a 400-acre wetland before entering Lake Michigan at New Buffalo, Michigan. In presettlement times, this wetland was a 90-foot-deep lake called Lake Potawatomia, which sediments from upstream land uses filled completely.

Michigan:
Running Its Own 404 Program

Swathed by the Great Lakes and their glaciated wetlands, Michigan contains over 2 million acres of wetlands. Most are protected by Michigan's wetlands program, which combines comprehensive wetlands protection with stiff penalties for violations. Michigan's wetlands fall under the jurisdiction of a variety of state laws such as the Inland Lakes and Streams Act, the Shorelands Protection and Management Act, and the Great Lakes Submerged Lands Act. But the centerpiece of Michigan's wetlands management program is the Goemaere-Anderson Wetland Protection Act of 1979[23] (referred to hereafter as the Wetlands Act). The Wetlands Act fills in the gaps left by the other programs. For example, the Inland Lakes and Streams Act regulates certain activities in inland lakes and streams and their associated wetlands *below* the ordinary high-water mark, and the Wetlands Act covers activities *above* the mark. Michigan is especially strict about development in its wetlands along the Great Lakes and Lake St. Clair. One state official remarked that developers should not even think about developing in those wetlands. Thus far, Michigan is the only state with both a sufficiently strict program and the political inclination to assume administration of the federal Section 404 permit program within its borders (which it did in 1984).

Although Michigan's wetlands program is broader than the 404 program, the two have much in common. For example, both contain similar definitions of wetlands and permitting criteria, and Michigan also issues five-year general permits on a state or county basis for activities that are similar in nature and will have only minimal individual and cumulative adverse environmental impact. Michigan, like several other states, also has an environmental protection act that requires all individuals and organizations, public or private, to prevent or to minimize adverse environmental impacts of their activities on the state's natural resources, including wetlands.[24]

Activities Regulated

The Wetlands Act splits wetlands into two broad categories—contiguous and noncontiguous—with different regulations for each group. Contiguous wetlands lie along lakes, streams, or ponds. Michigan regulates all of these wetlands, regardless of size. Noncontiguous wetlands, isolated either hydrologically or geographically from surface waters, are defined as wetlands located more than 1,000 feet from the ordinary high-water mark of one of the Great Lakes or Lake St. Clair, or more than 500 feet from the ordinary high-water mark of an inland lake, pond, river, or stream. Noncontiguous or isolated wetlands smaller than five acres are exempt from regulation, unless the Department of Natural Resources (DNR) determines that such a wetland is essential to protect natural resources from pollution, impairment, or destruction. Moreover, DNR may regulate wetlands that are otherwise exempt if the wetland supports federal endangered species or plants or animals of an "identified regional importance" or provides groundwater recharge. In counties with fewer than 100,000 people, noncontiguous wetlands are not regulated until a wetlands inventory is completed.

The Wetlands Act prohibits the following activities in wetlands without a permit from DNR: dredging, filling, or removing soil or minerals; draining surface water; and constructing, operating, or maintaining any use or development. Exempted activities include farming, ranching, logging, fishing, and trapping.

Michigan relies primarily on vegetation and aquatic life to delineate wetlands from uplands. However, in the absence of visible evidence of water, DNR will rely on soil types for wetlands identification. Michigan, like several other states, is in the process of mapping all of its wetlands.

Permitting

Since Michigan is essentially running its own 404 program, permit applications must go through a type of public interest review similar to that which the Corps performs and must meet similar tests to those which EPA has established, such as the water dependency and practicable alternatives test. In other words, in Michigan, a permit to develop in wetlands will be issued only if the activity is in the public interest, is "primarily dependent on being located in the wetland," or if no "feasible and prudent" alternative exists. Michigan goes a step further, however, and also considers the amount of wetlands remaining in an area and the cumulative impacts of the proposed project on wetlands in a particular watershed before it will issue a permit.

Once DNR receives a completed application, it has only 90 days to reach a decision; otherwise, by law, the project will be automatically approved.[25] DNR fails to meet the 90-day limit only occasionally. The statutes state that DNR may hold a public hearing within 60 days of receiving a completed application in order to allow the public to respond to the proposal. Usually, DNR holds hearings only for large projects or for small, controversial projects. Minor activities that qualify for a general permit normally do not merit public hearings unless DNR receives a request for a hearing within a 20-day notice period.

DNR formerly encouraged preapplication consultations at which developers and agency officials would meet to discuss a proposed project. DNR, however, discovered that most developers ignored its recommendations, and so the consultations were abandoned.

In general, if an applicant makes a reasonable attempt to protect wetlands, DNR will issue a permit. One DNR official estimated that in the southeastern Michigan district roughly 20 to 25 percent of applications are granted as applied for, about 25 percent are granted after the project design has been modified to reduce wetlands impacts, and about 50 percent are rejected. A large share of the rejected applications comes from what DNR calls "first-time developers"—that is, developers who are unfamiliar with the state's wetlands laws and who have not dealt with DNR before. "A lot of these developers come in with the attitude that 'this is my land and I am going to fill every square inch of it'," commented a water-quality specialist with DNR. "These projects are denied outright." If denied a permit, developers have essentially two choices: either they can appeal the case to an administrative law judge in a contested case hearing, or they can redesign the project to reduce its adverse impacts and resubmit their application. Most developers cannot afford to have their projects held up in hearings, which can take a year, and will instead try to negotiate with DNR.

DNR is not the only obstacle to wetlands development in Michigan. A growing number of local governments have enacted wetlands ordinances that go farther than the state regulations and cover development not only in the wetland itself, but in a specified buffer zone around the wetland as well.

Mitigation

Michigan's wetlands mitigation policy is ambitious: the state will tolerate no net loss of wetlands; mitigation will be on site and should replace lost functional values; and mitigation must be done before or concurrently with development. But the policy is also flexible: if on-site mitigation is not practical, off-site mitigation is permitted as long as it is within the same watershed and municipality. In cases where it is "inappropriate and impractical" to mitigate wetlands impacts either on site or off site within the immediate vicinity, DNR will consider mitigation elsewhere. When applying for a permit from DNR, applicants must show that they have done all they can to avoid any wetlands losses and that it is practicable to replace lost wetlands values.

Developers in Michigan, especially those who have been stung by the wetlands regulations, are taking additional precautions before purchasing or developing a site. Often, a developer will hire a consultant to determine if a site contains wetlands; and if it does, the developer will either lower its purchase offer or search for another site.

Enforcement

Michigan has the authority to impose some of the stiffest penalties in the United States on those who violate its wetlands laws. The state may slap violators with a civil fine of up to $10,000 per day of violation. Those who willfully or recklessly violate the law may face a fine of up to $25,000 per day and one year in prison. A second willful violation is a felony, punishable by fines up to $50,000 per day or by two years in prison, or by both. In addition, a standard condition on permits makes the applicant responsible for the success of the mitigation for five years. If the wetland does not perform as planned, DNR can make the developer fix it.

Yet, though the penalties are strong, enforcement is weak. Like most states, Michigan simply does not have the resources to monitor every site, so it follows up on controversial projects only. For most projects, once a permit is granted, DNR never sees the project again. And, according to a DNR official, when DNR does catch someone, the courts do not take the wetlands laws seriously and allow most violators to escape with just a slap on the wrist.

Comments

Although EPA retains the right to review wetlands fill permits, it seldom looks over Michigan's shoulder. A memorandum of agreement between Michigan and EPA establishes criteria for when EPA will involve itself in state wetlands permitting. EPA may, for example, review a permit if an applicant proposes: either to relocate 500 feet or more or to enclose (in a pipe) over 100 feet of a stream, to disturb more than one acre of wetland; or to place 10,000 cubic yards or more of fill in a wetland. According to DNR, EPA usually concerns itself with "major" projects only, such as those projects involving 10,000 cubic yards or more of fill. Of course, you can fill a lot of wetlands with less than 10,000 cubic yards.

Unlike Oregon and New Jersey, Michigan has not authorized mitigation banking, which it views it as a risky, experimental technique. According to one DNR official, "We are not confident about mitigation banking; the jury is still out."

Massachusetts:
Regulating Wetlands under Home Rule

Massachusetts was the first state to adopt a wetlands protection law and also one of the first states with a federally approved coastal zone management program (1978). The Jones Act (1963) and the Hatch Act (1966) were enacted to regulate activities in coastal wetlands and freshwater wetlands respectively. In 1972, the two acts were consolidated in the Wetlands Protection Act. Massachusetts now has one of the strictest wetlands programs in the nation.

The state's program is unusual in that it establishes general performance standards for different types of resource areas. The act presumes that wetlands provide at least one of the following seven values: protection of 1) groundwater, 2) water supplies, 3) fisheries, and 4) land containing shellfish; and protection from 5) storms, 6) floods, and 7) pollution—and that these values are in the public interest.

The regulations identify four inland and 11 coastal resource areas that are subject to protection. The inland areas are: bordering vegetated wetlands (that is, wetlands that border creeks, streams, rivers, ponds, and lakes); land under waterways or water bodies; banks; and floodplains. Bordering vegetated wetlands are the most highly protected resource area. The coastal areas are: coastal beaches; barrier beaches; dunes; banks; salt marshes; land under salt ponds; rocky intertidal shores; land under the ocean; designated port areas; land containing shellfish; and banks of, or land under, the ocean, ponds, streams, rivers, lakes, or creeks that underlie anadromous or catadromous fish runs. The resource areas are separately and individually regulated. Each contains a specific statutory wetlands value or interest and a corresponding set of performance standards. The regulations define each resource area and state which of the seven state interests are significant in that area.

A permit is required for any activity that will remove, fill, dredge, or alter specified wetlands areas. Certain exemptions apply, such as mosquito control, maintenance of utility lines, and agricultural activities on land that is currently being farmed. The act also identifies "limited projects," which, while not exempt from the permit requirements, are not subject to the same performance standards as, say, dredging or filling. Such projects include farming, forestry, utility operations, road construction, and maintenance of boat launching ramps, docks, piers, and duck blinds. As in New Jersey, in Massachusetts the regulations also apply to activities within a buffer zone that extends 100 feet from every resource area except floodplains. No performance standards apply to the buffer zone, however.

Unlike other states that rely on both vegetation and soils to identify wetlands, vegetation is the sole criterion in Massachusetts. For example, a bordering vegetated wetland is an area where at least 50 percent of the plant community is wetlands plants.

Administration

Home rule is strong in Massachusetts, as it is throughout the Northeast, and 347 town conservation commissions implement the state's wetlands program. Local programs, however, must be approved by the state and must adopt state-developed regulations. Unlike most states outside the Northeast, Massachusetts does not directly involve its state government in the day-to-day permit reviews. The commissions issue permits, called orders of conditions, with appeals handled by the state's Department of Environmental Protection (DEP). The commissions handle most applications, called notices of intent; only about 10 percent of the applications are appealed to DEP. No two commissions are alike, with each reflecting its town's attitude toward development and wetlands protection. For example, in Cape Cod, where the local community strives to slow the pace of development, applicants encounter much more rigorous permit reviews than in towns that endeavor to attract development. In addition, cities and towns may enact their own wetlands ordinances, which are usually stricter than state law. About 90 towns have such laws, and developers can be denied a permit under a local ordinance even if a proposal meets the state's requirements.

Permitting

On average, the state receives about 6,000 permit applications per year and denies very few of them. In 1987, however, a boom year for development in Massachusetts, the state received about 10,000 applications. It usually takes about six weeks to process a permit, but for large projects with considerable opposition, the process can take much longer. Applicants must identify all resource areas within a proposed development site and either show how the proposed activity will meet the performance standards or how the presumptions of significance will be overcome. Proposals to alter bordering vegetated wetlands face the toughest regulations. The performance standards allow work to be undertaken in such wetlands only under very narrowly defined circumstances.

The application process differs slightly depending on the size of the proposed alteration. For alterations under 5,000 square feet, the permit process works as follows. An applicant files a notice of intent with the local conservation commission and DEP. Following receipt of a completed application, the commission schedules a public hearing within 21 days. Once the hearing is closed, the commission is supposed to reach a decision in 21 days, but it may take longer, and an applicant's only recourse against a sluggish commission is an appeal to DEP, which could make matters worse. Unlike Michigan, where a permit is automatically issued if the regulatory agency does not act within the statutory time limit, Massachusetts has no such provision and the process can drag on for years. Eventually, the commission or DEP will issue an order of conditions, which either grants or denies a permit.

Permits usually contain 12 standard conditions that specify, for example, that the work shall conform to the approved plans and that all fill must be clean. Some commissions tack on additional conditions. For example, the Woburn Conservation Commission usually attaches up to 20 additional conditions that range from stipulating riprap aprons on all culvert outlets to requiring developers to have an environmental scientist on site during the mitigation. If an applicant receives a permit, he or she must wait 10 working days before beginning work to allow time for objections to be voiced to the terms of the order. Anyone, including DEP, can appeal the conditions. If DEP appeals, it will eventually issue what is called a superseding order of conditions. Recognizing that time is money to developers, local commissions often use the threat of delay to squeeze concessions out of developers. If an applicant is denied a permit or objects to the permit conditions, he or she can appeal to DEP. But the appeal process, which is supposed to take only 70 days, can take considerably longer. In 1988, due to DEP's huge backlog of cases, applicants could expect appeals to take two to three years to process. According to one Massachusetts developer, the main problem with that state's wetlands program is that it is woefully understaffed, causing intolerable delays.

For applications to alter over 5,000 square feet, an applicant must first go through the motions of applying to the commission for a permit, which will be denied, and then appeal to DEP. An applicant may request an adjuratory hearing before DEP, and if still unsuccessful, an applicant's next recourse is to apply for a variance. The commissioner of DEP will issue a variance only if: an overriding public need justifies the project; no alternative sites exists; the proposed mitigation will adequately compensate for the alteration; or a variance is necessary to avoid a taking. The first criterion automatically excludes most private projects, except perhaps low-income or elderly housing, and generally only public projects, such as sewage-treatment plants or roads, qualify for a variance. In 1988, out of about 11,000 permit applications, only three variances were granted. "You'll have grandchildren before you get a variance," said one DEP official, "it takes forever."

The state's rationale for what amounts to a ban on development involving alteration of over 5,000 square feet is that it defined bordering vegetated wetlands conservatively—that is, as areas with over 50 percent of wetlands vegetation—whereas other states define wetlands more broadly as areas that support a "prevalence" of wetlands plants. This argument has not appeased builders and developers, however, who argue that the 5,000-foot threshold provides the "least bit of weasel room to allow a developer to use his site economically."

SUMMARY OF SIX INNOVATIVE STATE WETLANDS PROGRAMS

State	Legislative Authority and Regulatory Agency	Activities Regulated	Buffer Zones	Typical Mitigation Ratios	Mitigation Banking Allowed?	Assumption of Federal 404 Program?
Florida	Warren S. Henderson Wetlands Protection Act (1984); Department of Environmental Regulation	Dredge and fill	None	2.5:1–4:1[1]	Yes	No
New Jersey	Freshwater Wetlands Protection Act (1987) and the Wetlands Act (1970); Department of Environmental Protection	Removal, fill, dredge, alteration	25–150 feet (for freshwater wetlands)	1:1– 7:1[2]	Yes	Working on it
Michigan	Goemaere-Anderson Wetlands Protection Act (1979); Department of Natural Resources	Removal, fill, dredge, drain	None	1:1	No	Yes
California	McAteer-Petris Act (1969) and the California Coastal Act (1976); California Coastal Commission and the San Francisco Bay Conservation and Development Commission	BCDC—chiefly beach access and removal and fill; CCC—very broad range of activities	100 feet required by CCC, none by BCDC	1:1	Yes	No
Oregon	Removal-Fill Law (1985); Division of State Lands	Removal and fill	None	1:1–6:1[3]	Yes	Decided against
Massachusetts	The Wetlands Protection Act (1972); Department of Environmental Protection	Removal, fill, dredge, alteration	Up to 100 feet	1:1	No	No

1. 2.5:1 for created wetlands, higher (4:1 and up) for enhanced wetlands.
2. 1:1 minimum, 7:1 for enhancement.
3. 1:1 for nontidal wetlands, up to 6:1 for tidal.

Like California, Michigan, and about 10 other states, Massachusetts has enacted an Environmental Protection Act. If a state permit is required and if a project exceeds one of the state's regulatory thresholds (for example, if more than 10,000 cubic yards of material is to be dredged or disposed of in a wetland), a review is triggered by the Massachusetts Environmental Protection Act. This review delays a project yet further.

Mitigation

Proposals to develop in wetlands or buffer areas must clearly demonstrate that no viable alternative to filling or altering the wetland exists. The state assigns a higher value to bordering vegetated wetlands than it does to other resource areas such as floodplains. Bordering vegetated wetlands are presumed significant for six of the seven statutory interests and, according to DEP regulations, "the complex natural functioning of these wetlands cannot be replicated, and no amount of engineering will enable such areas to be filled or substantially altered without seriously impairing the statutory interests they serve."[26] Given DEP's position, applicants will be hard-pressed to get a permit to alter such wetlands. Filling can occur in floodplains, however, if an applicant provides adequate compensatory flood storage, since this is the primary state-protected interest in floodplains and can be satisfactorily reproduced. The more statutory interests that a resource area provides, the harder it is to develop in that area.

Applicants altering up to 5,000 square feet of bordering vegetated wetland must create a wetland of equivalent size. Across the state, over 1,000 replication projects have been undertaken. The regulations decree seven conditions or standards for replacing wetlands, including the following: at least 75 percent of the surface area of the replacement wetland must be reestablished with indigenous wetlands plants within two growing seasons; and the replacement wetland must be located within the same general area as the lost wetland.

For those rare projects that receive authorization to alter over 5,000 square feet of bordering vegetated wetlands, the same replication requirements and standards apply.

Following completion of a project, the applicant may request a certificate of compliance, which certifies that the project was completed in compliance with the permit.

Monitoring and Enforcement

An order of conditions usually states that a replicated wetland must be fully established within three years. Most local conservation commissions do not, however, have the resources for regular monitoring, and when they do monitor, they do so usually only for two years.

Both DEP and a conservation commission may take enforcement action against those who violate the state's wetlands laws. Common violations include: failure to obey a particular condition or time restriction of the permit; failure to complete the work that was agreed upon in the permit; and failure to obtain a permit before altering a regulated wetland. DEP, like EPA and the Corps, can issue administrative penalties of up to $25,000 per day of violation. The Wetlands Protection Act also allows the police or a group of 10 citizens to bring a criminal action in the local district court. Fines may reach as high as $25,000 or up to six months imprisonment for each day of violation. Violators may also be forced to undo the damage they have done. One violator was sentenced to 30 days in jail, but the sentence was suspended after he agreed to restore the site to its original condition. From 1987 to July 1988, DEP issued 20 fines totaling about $500,000. The largest fine was $140,000 and the smallest was $200. Most fines are appealed. According to a DEP official, fewer fines were issued in 1988 than in previous years because the state received a record number of permit applications and consequently spent most of its time processing permits and very little on monitoring and enforcement.

In addition to the Wetlands Protection Act, Massachusetts has also enacted a Coastal Restriction Act and an Inland Restriction Act. The goal of these acts is permanently to protect the state's most ecologically significant wetlands in advance of development proposals by permanently restricting certain activities, such as dredging and filling, in such wetlands. Again, certain exemptions apply, such as outdoor recreation, installation of floats or piers, and shellfish harvesting. Under the acts, the state maps qualifying wetlands on a town-by-town basis and, following a public hearing, places permanent restrictions on certain activities in designated wetlands. These restrictions are recorded on the deeds covering designated land in order to give notice to future property owners.

Since the Coastal Restriction Act was enacted in 1965 and the Inland Restriction Act in 1968, approximately 46,000 acres of coastal wetlands and 7,700 acres of inland wetlands have been protected. Most of the towns that participate in the restriction program are in eastern Massachusetts.

Massachusetts issues no state general permits, nor does it have mitigation banking.

Notes

1. From a personal conversation on August 30, 1989, with Stan Geiger of Scientific Resources, Inc., Lake Oswego, Oregon.
2. 53 FR 20772.
3. See The Conservation Foundation, *Protecting America's Wetlands: An Action Agenda*, the final report of The National Wetlands Policy Forum (Washington, D.C.: The Conservation Foundation, 1988), p. 23.
4. Demming C. Cowles, et al., "State Wetland Protection Programs: Status & Recommendations," a report prepared for the U.S. Environmental Protection Agency, Washington, D.C., December 1986, pp. 10, 19.
5. For further information see Cowles, "State Wetland Protection Programs," p. 26.
6. The coastal zone, as defined in the CZMA of 1972, consists of "coastal waters and adjacent shorelands strongly influenced by each other and in proximity to the shorelines of the coastal states." The zone extends inland from the shoreline and includes a variety of interdependent ecological systems, such as wetlands, lakes, streams, beaches, and dunes, "the uses of which have a direct and significant impact on coastal waters."
7. FLA Stat. 17-12.015 (1)(b).
8. Personal conversation on August 28, 1989, with William Carey of Land Sciences Corporation, Fort Lauderdale, Florida.
9. Florida Department of Environmental Regulation, "Report to the Legislature on Permitted Wetlands Projects, October 1, 1987–September 30, 1988," February 1989.
10. N.J.S.A. 13:B-27.
11. 20 N.J.R. 1264, 6/6/88.
12. See William Travis, "A Comparison of California's Coastal Programs," *Coastal Zone 87: Proceedings of the 5th Symposium on Coastal and Ocean Management* (New York: American Society of Civil Engineers, 1987), p. 2911.
13. Personal conversation on July 7, 1989, with Robert Batha, environmental planner, San Francisco Bay Conservation and Development Commission, San Francisco, California.
14. Travis, "A Comparison of California's Coastal Programs," p. 2913.
15. According to a staff report by the San Francisco Bay Conservation and Development Commission, "Diked Historic Baylands of San Francisco Bay," 1982.
16. See the California Coastal Commission's, "Statewide Interpretive Guidelines, December 16, 1981," p. 52. (Available from California Coastal Commission office in San Francisco.)
17. California Coastal Commission, "Statewide Interpretive Guidelines," p. 45.
18. San Francisco Bay Conservation and Development Commission, "Mitigation: An Analysis of Tideland Restoration Projects in San Francisco Bay," a staff report dated March 1988, p. 55.

19. From the "1988 Annual Report" of the San Francisco Bay Conservation and Development Commission, issued January 1, 1989, p. 10.
20. See Travis, "A Comparison of California's Coastal Programs," p. 2913.
21. As reported in a staff report of the Oregon Division of State Lands, "State Assumption of the Federal 404 Permit Process," December 1988, p. 2.
22. O.R.S. 541.625.
23. Act 203, P.A. of 1979.
24. The act in question is the Michigan Environmental Protection Act (1970, P.A. 127).
25. R 281.923, 3(3).
26. Massachusetts Department of Environmental Quality Engineering (renamed Department of Environmental Protection), "Wetlands Protection Act Regulations" (M.G.L. Chapter 131, Section 40), p. 3.

CHAPTER 4

MITIGATION STRATEGIES

> *"Any wetland that you intend to fill had better be very valuable [to your project] because you will have to spend $50,000 an acre building a new one somewhere else."*
>
> Don Tilton, Johnson, Johnson & Roy

Developers have always practiced two kinds of mitigation: the kind they do before they buy a site and the kind they do afterwards. They often avoided sites with potential environmental liabilities such as floodplains or steep slopes simply by not buying the property. Seldom, however, did developers reject a site because it contained wetlands; the only constraint was whether or not the site could be filled and developed economically. Today, though, the presence of wetlands is enough to frighten away even the most sophisticated developers. In response to increasingly stringent wetlands protection laws, developers have become more cautious in their site selection. Wary developers frequently decide against buying, or often at least reduce their offer for, property containing wetlands. One developer in North Carolina stated that if he finds wetlands on his site he will "sell the property and go find some highlands."

This chapter, however, chiefly concerns issues faced by developers who have bought property containing wetlands and who are intent upon developing it. By focusing on four types of mitigation strategies, and providing two case studies of each type, this chapter offers very practical solutions to a variety of very real problems.

MITIGATION CHOICES

Wetlands come in all shapes and sizes. Some are shaped like amoebas and refuse to fit neatly into site plans, others are geometric. Some occupy the center of a site and limit development options, others lie along the edge and may present only a minor constraint or inconvenience. The choice of mitigation strategy depends largely on the type of project, the size of the property, the size, condition, and position of the wetlands, and the regulatory environment. No single strategy will work for every site. Mitigation for a small residential development in tidal wetlands, for example, will differ considerably from that for a large office/retail complex in a freshwater wetland. Furthermore, mitigation on the West Coast will differ from that on the East, primarily because of the differences in wetlands types, but also because of historical differences in the types of disturbances to which wetlands in the two areas were subjected. Wetlands along the Pacific Coast were often diked for agriculture, while those along the Atlantic Coast were typically altered by urban development.

Generally, the bigger the site, the greater the mitigation flexibility: large sites provide room to position buildings around wetlands or to create wetlands on site, whereas small sites generally do not. Also, compared to freshwater wetlands, the relative simplicity and predictability of tidal wetlands make them better subjects for either creation or restoration; in other words, tidal wetlands offer more mitigation options.

Literally hundreds of developments have involved mitigating impacts on wetlands. In some cases, the mitigation has been very successful, while others have been dismal failures. But success, like happiness, is very subjective. If success means only that wetlands plants were growing in the newly created or restored wetland or that permit conditions were met, then most mitigation efforts can be considered successful. However, if it means that all the functions and values of a filled wetland were completely restored or replaced elsewhere, then there are far fewer successes. But those criteria inject even more subjectivity: what are the values of wetlands and how can they be measured? While few observers will agree on the same criteria for success, most would agree that it is nearly impossible to replicate completely all wetlands values and functions. Some projects, however, have come impressively close—as the projects shown in this chapter demonstrate.

In general, mitigation strategies can be divided into four categories, which closely follow CEQ's definition of mitigation: avoidance/minimization, restoration, enhancement, and creation. In this chapter, each strategy is first discussed briefly and then illustrated by two examples. Each example includes a description of the project, its location, the permit process, the mitigation, and a few of the lessons learned by the developer. The examples are in various stages of completion. Some were completed several years ago, others are less than a year old, and a few are still under construction. Whatever stage the projects have reached, however, something can be learned from each one.

AVOIDANCE/MINIMIZATION

> "If you want to get on base, hit the ball where they ain't."
>
> *Baseball cliche'*

Although it may stretch the meaning of "mitigation," the best mitigation strategy for developers is to avoid building in wetlands in the first place by placing all buildings, roads, and parking lots in upland areas and keeping the wetlands open. The benefits of this simple strategy are compelling. Numerous developers have spared themselves considerable time, cost, and aggravation by building around, rather than in, wetlands. Furthermore, preserving wetlands often adds considerable value to a project; wetlands preserved in their natural setting frequently turn out to be one of the most attractive features of a project.

Probably the most convincing argument for preserving a wetland is that it is considerably cheaper than creating a new one. Wetlands generally cost anywhere from $20,000 to $75,000 an acre to build; and occasionally, developers must build a replacement wetland on what would otherwise be a choice piece of real estate. In Michigan, for example, a developer had earmarked a seven-acre site adjacent to a marina he was developing for condominiums; but the seven-acre site was the only available location for the on-site mitigation required by the state, and so the developer had to create a wetland instead of the condominuims.

One popular method of mitigation is to cluster buildings in one area while keeping the rest of the site open. If permitted by local zoning, this approach can cut down the magnitude of the wetlands fill, or avoid the wetland entirely, and save on infrastructure costs as well. This is not a new concept. In Lincoln County, Massachusetts, every subdivision approved by the planning board during one 10-year period in the 1970s and 1980s was a clustered development. Although increasing in popularity, clustering is still prohibited by some jurisdictions and allowed by others only through a special exemption. Generally, urbanized counties, especially those that allow Planned Unit Developments (PUDs), will accommodate clustering, whereas their rural counterparts will not. Subdivision regulations in Fairfax County, Virginia, for example, allow clustering for subdivisions. The county requires that, depending on the type of zone, between 15 and 50 percent of the clustered subdivision be designated as open space. According to a Fairfax County zoning official, over 80 percent of recent developments of subdivisions in the county were clusters.[1]

Harford County, Maryland, likewise requires developers to set aside a minimum percentage of their residential clusters as open space. For example, 10 percent of a site must be left open in the county's R-1 and R-2 residential zoning districts, 15 percent in R-3, and 20 percent in R-4. Only 60 percent of the open space within a project can be comprised of passive uses and the rest must be set aside for active uses, such as ballfields and tot lots. Wetlands may provide part of the passive use. In addition, the county's policy regarding development in its designated natural resource districts offers incentives for developers to cluster buildings and protect sensitive environments. Clusters make up the bulk of recent residential developments in Harford County (see The Villages of Thomas Run case study on pp. 72–74).

Although building adjacent to, rather than in, wetlands will reduce the adverse environmental impacts as well as regulatory burdens, it will not guarantee the long-term survival of the spared wetland. A wetland is not an isolated, independently functioning ecosystem; changes in its surrounding environment greatly influence the character and well-being of a wetland. Sediment and polluted runoff from nearby development can destroy a healthy wetland. For this reason, many states require developers to establish a buffer zone of 100 feet or so between the development and the wetland.

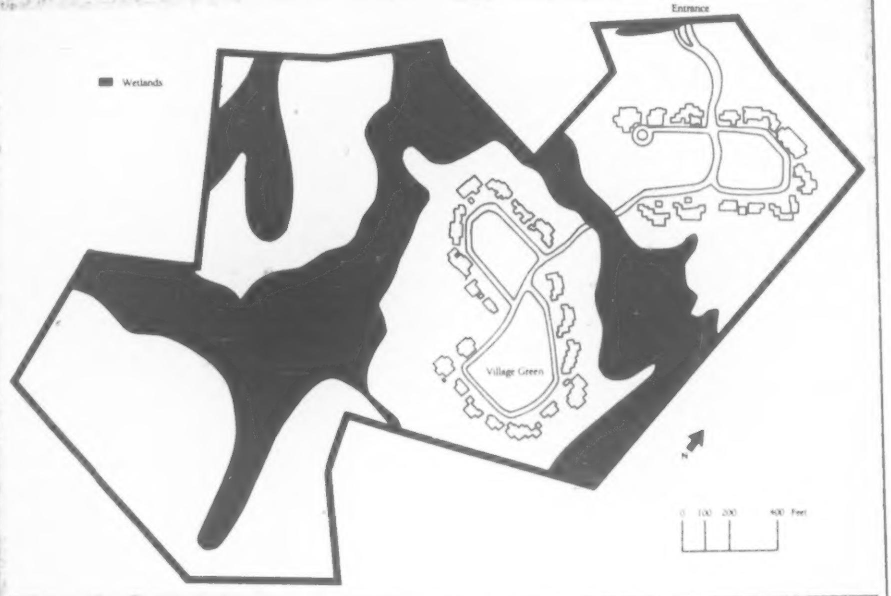
Damage to a wetland and its inhabitants can be reduced by utilizing certain "wetland-friendly" con-

THE CLUSTER CONCEPT

A medium-sized residential project in Atkinson, New Hampshire, illustrates the cluster concept. In this project, the developer utilized a simple but effective strategy to deal with the numerous wetlands scattered over the 111-acre site: build where the wetlands are not. Some filling was necessary for roads, but the amount to be filled was kept below 10 acres in order to qualify for a general permit from the Corps.

The project, called The Commons at Atkinson, contains 98 townhouses clustered on the upland portions of the site and features about 90 acres of open space, 78 of which comprise the "town greens." The designers have dealt with the Corps before, so they know what has to be done to get a project approved. As Gordon Leedy from Matarazzo Design remarked: "Once you go through the 404 process a few times and get hanged up by the regulators, you learn what you can and cannot do. Time is money so you learn real fast."

SITE PLAN OF THE COMMONS AT ATKINSON



Source: Matarazzo Design, Concord, New Hampshire.

struction techniques and materials, and by carefully scheduling the timing of construction so that it does not interfere with, for example, bird mating and nesting seasons. One developer imported special low-ground-pressure grading and support equipment from England to minimize the damage development would otherwise cause to a marsh. Others developers have built temporary, low-impact roads and work stations out of logs or steel construction plates to reduce the damage caused by heavy construction equipment.

In a few instances, the Corps has actually built temporary dikes to dry out a wetland so that heavy equipment could be moved in without overly compacting the wetlands soils. After the heavy work was completed, the

Courtesy Hartz Mountain Industries

Heavy earth-moving equipment can severely compress soft, muddy soils and irreparably change the hydrology of a wetland. Moving cranes along temporary log roads, as shown here, distributes the weight over a greater area and significantly reduces the degree of soil compression.

equipment was removed, seedlings were quickly planted in the still moist soil, and the dike was breached, allowing the water to soak the site once again.

The following two examples illustrate how developers were able to build on sites containing wetlands while avoiding or at least substantially minimizing any wetlands fill.

THE VILLAGES OF THOMAS RUN

Harford County, Maryland's zoning ordinance is unusual in that it allows developers to "bump up" to the next highest residential zoning classification if more than 30 percent of a site is designated as a natural resource district. The purpose of such districts is to preserve special environmental features such as wetlands, streams, rivers, and steep slopes. Within natural resource districts, nontidal wetlands "shall not be disturbed by development." In addition, developers must maintain a 75-foot buffer between development and wetlands.

A local developer, Oak Investment Company, Inc., originally submitted plans to Harford County to build 430 single-family homes on individual lots on a 151-acre site characterized by gently rolling terrain and dissected by two small streams, along which lie over 20 acres of bottomland forested wetlands and wet meadows. Over 30 percent of the site was designated as a natural resource district. The proposed development would have entailed extensive wetlands filling, five stream crossings, and would have eliminated most of the mature woods on the site. Citing the project's likely adverse impacts on wetlands, the county rejected the proposal outright.

After being rebuffed by the county, the developer hired Morris & Ritchie Associates, Inc., a local planning and engineering consultant, to develop a site plan which would accommodate the site's constraints and take advantage of the special natural resource district provisions in the county's zoning ordinance. The revised proposal

The natural resource district provisions of Harford County's zoning ordinance provide incentives for developers to preserve wetlands.

called for clustering 530 townhouses on upland portions of the site and leaving the wetlands virtually untouched.

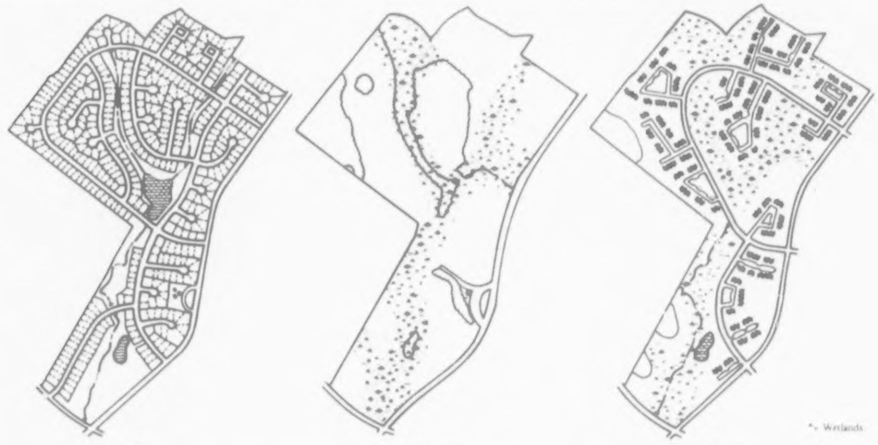
Because more than 30 percent of the Thomas Run site lies within a designated natural resource district, Harford County's zoning ordinance allowed the site to be developed with lots, setback requirements, and housing types allowed in the next higher zoning classification, but at no greater overall density than allowed by the original zoning. The Thomas Run site was in an R-2 zone, but its natural resource lands bumped it up to an R-3. Thus, instead of building 24-foot-wide townhouses in groups of four or less, the developer could build 20-foot-wide townhouses in groups of eight. By clustering the units on the upland portions of the site, the developer was able to preserve nearly half the site as passive open space, reduce stream crossings from five to three, and greatly reduce the costs of grading, roads, and utilities. In addition, because no wetlands were filled except near the stream crossings, the developer qualified for a nationwide permit—a generic permit from the Corps that is easier to obtain than an individual permit.

Following county approval of the revised plan, the development was sold to Rachuba Enterprises, Inc., and by the end of 1989 nearly half the planned units at Thomas Run had been built.

By clustering the townhouses, the developer was able to preserve nearly half the site, including over 20 acres of wetlands, as passive open space.

FIGURE 4.1

INITIAL AND APPROVED SITE PLANS FOR THE VILLAGES OF THOMAS RUN



Initial Site Plan

Location of Wetlands

Approved Site Plan

Source: Morris & Ritchie Associates, Inc., Bel Air, Maryland.

Harford County's provisions allowing developers to "bump up" to the next zoning classification offer strong incentives for developers to preserve sensitive environmental features. According to Tom O'Laughlin of Morris & Ritchie Associates, "Developers now seek land with natural features such as wetlands and steep slopes because it allows them to build a greater mix of housing types at greater net densities than would otherwise be permitted."

Lessons Learned

- Do not automatically shy away from property containing wetlands. Because of the flexibility in Harford County's zoning for natural resource districts, developers can increase the number of units they can build while preserving sensitive environmental features.
- Through careful site planning, developers can work with most environmental constraints.

PROJECT DATA

Developer
Rachuba Enterprises, Inc.
Towson, Maryland

Builders
Ryland Homes, Inc.
Lutherville, Maryland

Pulte Home Corp.
Silver Spring, Maryland

Site Planner and Engineer
Morris & Ritchie Associates, Inc.
Bel Air, Maryland

Wetlands Consultant
EA Engineering, Science, & Technology
Sparks, Maryland

Geotechnical Consultant
Geo-Technical Associates
Bel Air, Maryland

MONTECITO APARTMENT VILLAGE

At first glance, the biggest drawback to this 40-acre parcel located in Tampa, Florida, was the 10-acre wetland located smack in its center. But Embrey Investments, Inc., of San Antonio, Texas, was able to turn the wetland from an apparent liability into a unique asset. Today, the 384-unit apartment village features an attractive wetland with beautiful cypress trees as its centerpiece. Instead of filling the wetland, the developers used it to their advantage.

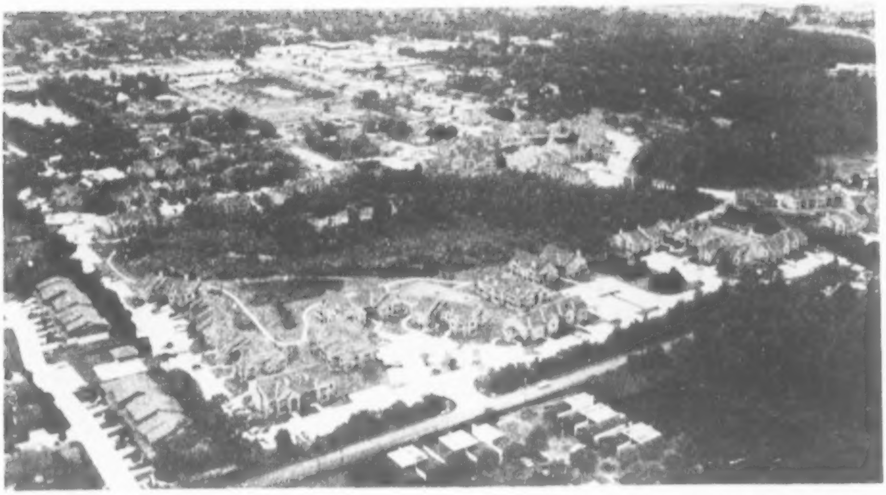
Architects Fusch, Serald & Partners of Dallas designed the 45 two-story apartment buildings. The units are built in three clusters or pods that sit on the upland portions of the site and avoid the wetland entirely. The three clusters surround the wetland area and afford 70 percent of the units views of the greenery and other amenities. The wetland contains a cypress swamp and a three-acre lake.

Each building contains between eight and 10 units, with rents ranging from $390 to $670 per month. The design and location of Montecito appeal to young professionals who commute to downtown Tampa. The village features an exercise facility, clubhouse, pool, jacuzzi, tennis courts, and, around the central wetland, a two-mile jogging trail. The gross density of the project is 10 units per acre.

Permitting

Embrey Investments purchased the site in 1987 and began construction that year. No permits were needed from the Corps because the project necessitated virtually

Preserving wetlands often adds value to a project. Many apartments at Montecito enjoy views of the lake.



Clustered development can preserve valuable open space, such as this 10-acre wetland. By not building in the wetland, the developer avoided the rigorous Section 404 permit process.

no wetlands fills. Unavoidably, however, a small sliver of wetlands within the "waters of the state" was filled. Consequently, the developer had to obtain a permit from Florida's Department of Environmental Regulation and the Hillsboro County environmental protection office. Hillsboro County's wetlands laws require that all artificial forested wetlands be monitored for five years after their creation, and that during that period at least 85 percent of the wetlands plants survive. If more than 15 percent of the plants die each year, the developer is required to replace them with new plants. The county also requires a 30-foot setback from all wetlands in which neither construction nor impervious surfaces are allowed. The jogging/walking trail that passes through the setback area is made of mulch, and a section of the village's parking lot that penetrates the buffer zone was paved with porous concrete.

Mitigation

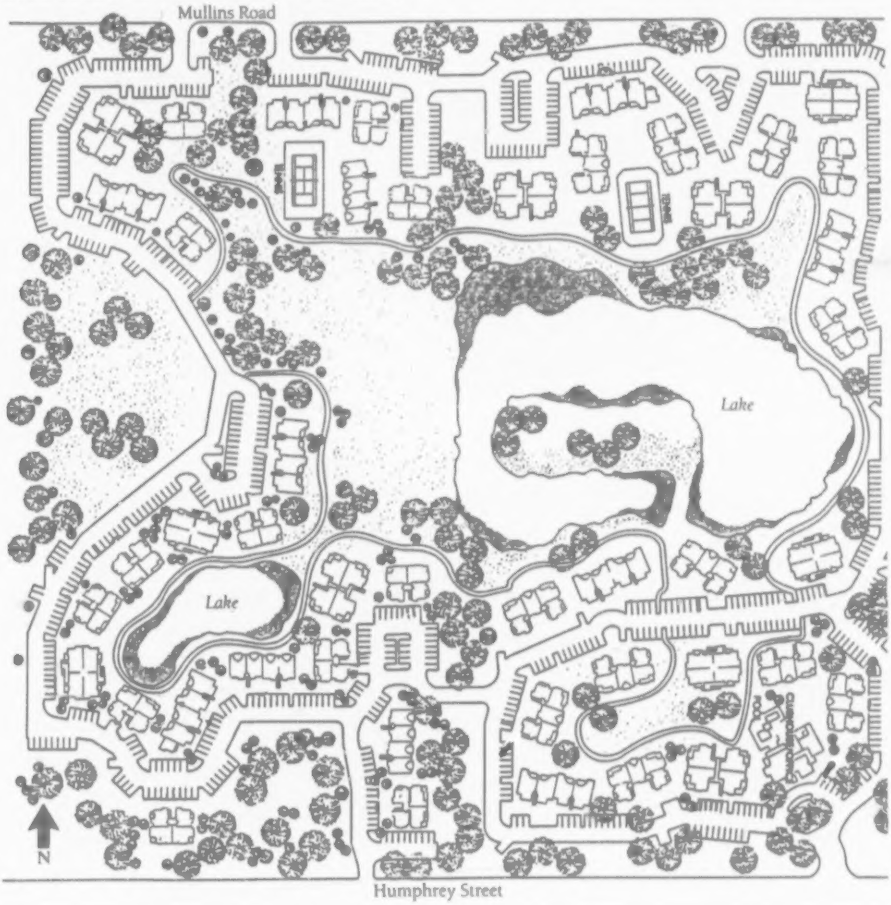
Embrey Investments avoided the rigors of the Corps permit process by developing around, rather than in, the wetlands. Still, some mitigation was required. The developer had to pave a small area of wetlands to provide access to parking facilities. In exchange, an upland area of about one-half of an acre was dug out, graded, and planted with trees. The developer removed up to one foot from the surface of the mitigation site and replaced it with about six to 12 inches of organic soil taken from the filled wetland. The area was then planted

In addition to the tennis courts and two-mile walking/jogging trail, the project also features a jacuzzi and swimming pool.

with over 100 trees, primarily pond cypresses and an assortment of red maples, black gums, sweet bays, and swamp bays. The developer also preserved 150 or so mature oak trees on site. The trees were temporarily transplanted to the wetlands area for safekeeping during construction, and then replanted throughout the site when construction was complete. An official of the county Development Review Department, which generally frowns on any proposals to remove mature trees from wetlands, commented that Embrey has done a "good job of saving existing trees." Embrey also had to install a pipe in the area beneath the road where the

FIGURE 4.2

SITE PLAN OF MONTECITO VILLAGE



Source: Embrey Investments, Inc., San Antonio, Texas.

wetland was filled so that small animals could cross the road unharmed.

Although some minor problems have surfaced with the created wetland (the grading, for example, was not done properly so too much water lies in pools around the trees), both the state and county seem pleased with the project. The DER permit was issued in July 1987.

Lessons Learned

- Wetlands can actually increase the value of a project.
- Save the large specimen trees where possible to prevent the project from looking barren during its early years.

PROJECT DATA

Developer
Embrey Investments, Inc.
San Antonio, Texas

Architect
Fusch, Serald & Partners
Dallas, Texas

Environmental Consultant
Biological Research Associates, Inc.
Tampa, Florida

RESTORATION

"And restore the tone of languid Nature."
William Cowper

In most cities and towns, the best sites—the dry, relatively flat, stable sites—were developed first, and those that were more difficult or expensive to develop—wetlands, steep slopes, flood-prone areas—were left for others to pick over later. Many of the leftover sites were diked, dumped on, or filled years ago. Suffocating from fill, deteriorating from pollution and debris, these abused wetlands retain only a modicum of their full range of ecological values. These wetlands can, however, be returned to ecologically productive uses by cutting off pollution discharges, removing fill, regrading the site, and introducing native wetlands plants. Unexpectedly but increasingly, these wetlands are becoming attractive targets for development. Even degraded wetlands, however, are protected by state and federal laws, although usually not as vigorously as pristine wetlands. In exchange for filling a wetland on site or nearby, developers have restored a number of these long-neglected wetlands to thriving, self-sustaining ecosystems.

Some states prefer that developers restore rather than create a wetland as compensation for filling another wetland, since restoration, these states believe, involves less risk. Conversely, others now protect their altered or degraded wetlands and will no longer accept restoration as mitigation; these states require that developers create a new wetland out of upland and thereby produce a net gain in wetlands. The logic behind this second approach is that restoring a degraded wetland in exchange for filling a perfectly good one leads to a net loss of wetlands acreage and values; a wetland, however damaged, is still a wetland. By contrast, no net loss of wetlands values or acreage will occur if a new wetland is created out of upland, assuming that the created wetland exhibits the same values as the one that was filled.

In the Hackensack Meadowlands of New Jersey, not far from Manhattan, a 7,500-acre abused and neglected wetland is one of the few, and perhaps the only, remaining large undeveloped tracts of land in the area. The area is under intense development pressure with property values running as high as $500,000 per acre. One company, Hartz Mountain, has developed nearly 3 million square feet of commercial and industrial space in the Meadowlands and is planning to add over 3,500 houses in the near future. The project is possible only because of the extensive mitigation involved. In exchange for filling 128 acres of wetlands, Hartz is required to restore and preserve 151 acres of severely polluted, unproductive wetlands. Thus far, Hartz has created a 63-acre salt marsh out of polluted muck that

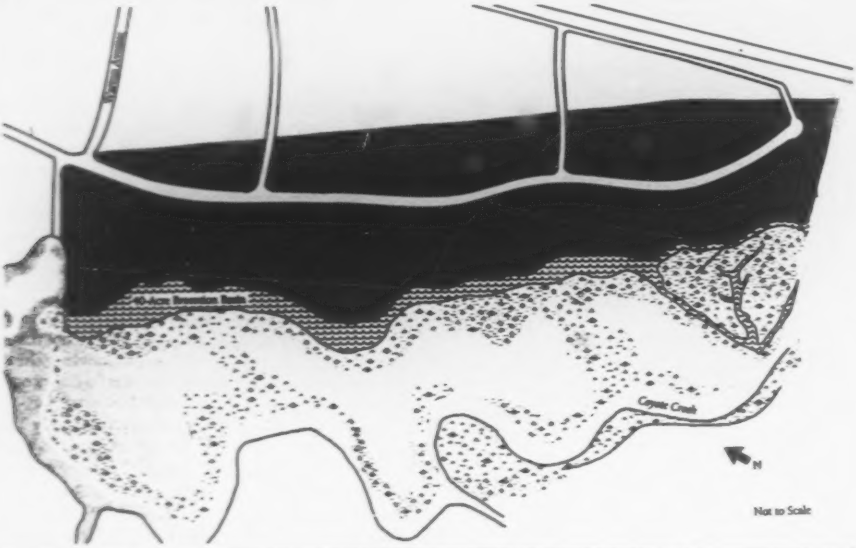
PORTRAITS OF TWO MARSH RESTORATIONS IN THE SAN FRANCISCO BAY

Warm Springs Marsh
Fremont, California

Located at the southeast corner of the San Francisco Bay, the 250-acre King and Lyons Business Park overlooks a budding 260-acre restored tidal marsh called Warm Springs Marsh. In the 1930s, the marsh, like so many other tidal marshes along the San Francisco Bay, was diked off from the Bay and converted to cattle pasture. In its previous natural state, the marsh was probably a salt marsh dominated by pickleweed. Behind the dikes lay "seasonal wetlands"—shallow depressions that fill with water during the fall and winter rains and dry out each spring and summer. Supporting a unique collection of plants and animals that can tolerate the annual transformation from desert to freshwater pond, these short-lived wetlands were scattered across the site. According to the Corps, the site contained pockets of seasonal wetlands in upland areas and pockets of upland in wetlands areas. After the Corps issued a Section 404 permit in 1984, a consultant, Philip Williams and Associates, devised a restoration strategy that was designed to consolidate the wetlands in one area and the

Salt marshes generally take longer to develop in California than on the East Coast. During the dry season, the amount of freshwater flowing from the mountains to the ocean is significantly reduced, resulting in a greater salinity of the coastal Pacific waters. The greater salinity slows the rate of plant growth. Three years after the dike was breached, less than half of Warm Springs Marsh was covered with plants.

SITE PLAN OF WARM SPRINGS MARSH



Source: Thompson + Wright, Architects and Planners, San Francisco, California.

upland in another. In exchange for filling over 200 acres of seasonal wetlands, the developer was required by the Corps to restore tidal action to the diked marsh and to leave intact a 25-acre stand of pickleweed.

The goal of the restoration was to create the right hydrological conditions for different plants to prosper and then to let Nature do the rest. In order to construct the building pads for the business park, which was designed to contain light manufacturing as well as R&D facilities, over 2 million cubic yards of sand and silt were excavated from the marsh restoration site as parts of the site were lowered to about 10 feet below sea level. Excavation occurred at three different locations to create three distinct basins, each checkered with holes and surrounded by a 100-foot-wide shelf that was constructed to support plants like alkali bulrush. After excavation and grading were completed, in 1986 the dike was breached in three places and the Bay waters quickly swept over and reclaimed the long dormant marsh.

As the accompanying figure shows, since the business park is located within the 100-year flood area, the developer constructed a flood control levee inland of the restoration area. Between the levee and the industrial park lie two separate managed areas: the untouched stand of pickleweed and a 40-acre linear stormwater retention basin.

The southeast portion of the Bay experiences very high sedimentation rates (as high as one foot per year), probably the highest in the Bay. According to an official at Philip Williams and Associates, as sedimentation proceeds, the restored marsh should evolve relatively quickly through a series of wetlands types: from mudflats to salt marsh dominated by cordgrass, to a brackish marsh dominated by alkali bulrush marsh, and finally to a fully developed pickleweed marsh. Within two years, pickleweed had begun to colonize the basin shelves. A botanist who inspected the site, however, noted that colonization is proceeding slowly, with large areas of the shelves still bare.[1]

With over 200 acres of marsh restored, this project qualifies as one of the largest restoration efforts ever undertaken and one of the last large projects permitted in the San Francisco Bay. As far as the Corps is concerned, it is one of the most successful projects as well. When the project was first conceived in the early 1980s, seasonal wetlands received scant protection from the Corps. Not so anymore. In today's regulatory climate, the project probably would not be permitted.

Muzzi Marsh
Marin County, California

When Dominic Muzzi diked 225 acres of tidal salt marsh along the San Francisco Bay in 1959, he would surely have been surprised to know that, 25 years later, someone would spend over $2 million to buy the site and turn it back into a wetland. But when the Golden Gate Bridge, Highway, and Transportation District decided to build a new ferry terminal on the Corte Madera Creek, it needed a site both to mitigate for dredging over 30 acres of mudflats and salt marsh for the access channel from the San Francisco Bay and to dispose of the dredge spoils. The nearby and still vacant Muzzi site was an ideal choice. Of the 200 acres purchased by the District in 1976, 70 were used for dredge disposal and 130 for marsh restoration. Some of the dredge spoils were used to shape the marsh prior to its restoration.

Phyllis Faber

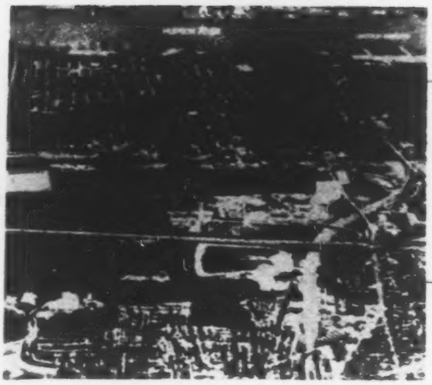
Thirteen years ago, the dikes along Muzzi Marsh were breached. Today, this thriving salt marsh supports a variety of plants, fish, and shorebirds.

In 1976, the dike was breached in four places and the Bay waters once again washed over the site with the ebb and flow of the tide. Although no planting or seeding was done, within a year pickleweed began invading and colonizing the marsh followed by cordgrass a year or two later. By 1982, both pickleweed and cordgrass were well established. Natural revegetation proceeded too slowly, however, in the opinion of the California Department of Fish and Game and the City of Corte Madera, so in 1980 the District modified the site to increase tidal access and to restrict human, dog, and cat intrusions. From each of the four breaches, the district dug oversized channels to create two loops around the periphery of the marsh—like moats around a castle. One year later, cordgrass colonized the edges of the new channels and, by 1986, large stands of cordgrass were established.

According to Phyllis Faber, a botanist who has monitored the Muzzi Marsh restoration since its inception, the restoration was successful in creating quality wildlife habitat, but she believes its long-term survival is doubtful. Flocks of waterfowl and shorebirds regularly visit the marsh and two or three rare or endangered species inhabit the marsh as well. Unfortunately, due to heavy sedimentation, the channels are fast filling with sediment and the marsh seems to be evolving rapidly from a wetland to an upland habitat.[2]

Notes:

1. Personal conversation on October 2, 1989, with Phyllis Faber, a wetland biologist living in San Francisco, California.
2. Ibid.



The Hackensack Meadowlands lie in one of the most heavily developed corridors in the nation.

Courtesy Hartz Mountain Industries

was a haven for the upstart common reed (considered a weed) but not much else. Although it is still too early to tell, by many accounts the mitigation seems successful. Birds have responded quickly to the restoration: about seven times as many birds and twice as many species populate the restored site compared to an adjacent, unrestored site. The restoration has not, however, been cheap. In fact, it is one of the most expensive private wetlands mitigation efforts ever undertaken; Hartz has spent over $5 million already, or over $75,000 per acre.

Restoration is often as simple as removing the dike, drain, or fill that altered the wetland in the first place. Many diked wetlands along the California coast were restored merely by breaching a dike and exposing the wetland to tidal action. Other wetlands were restored by creating the right environmental conditions in which desirable wetlands plants could prosper.

Some restorations are more complicated, however, and require an elaborate water-control system to provide an artificial environment conducive to wetlands plants. This process may be necessary in an enormous proposed wetlands restoration project on the Pacific Coast near Los Angeles that rivals Hartz Mountain's in scale and expense. The 960-acre site, owned by Howard Hughes Properties, an affiliate of Summa Corporation, contains 216 acres of degraded fresh and saltwater marshes called the Ballona Wetlands. Seepage from oil and gas production, runoff from roads, and chemicals from agricultural activities have damaged these wetlands. Howard Hughes Properties has proposed to restore and preserve the 216 acres as part of a mixed-use development called Playa Vista. The proposed mitigation is estimated to cost $8 million and will take about five to 10 years to complete. If the project is approved, Hughes will deed the 216 acres to the National Audubon Society, which will manage the restoration effort as well as a proposed on-site interpretive center—an integral part of the restoration. The mitigation will include a programmable, automated tide-gate control system to establish and maintain desired tidal water exchange rates. If completed, the Ballona Wetlands will become one of the largest wildlife sanctuaries along the California coast.

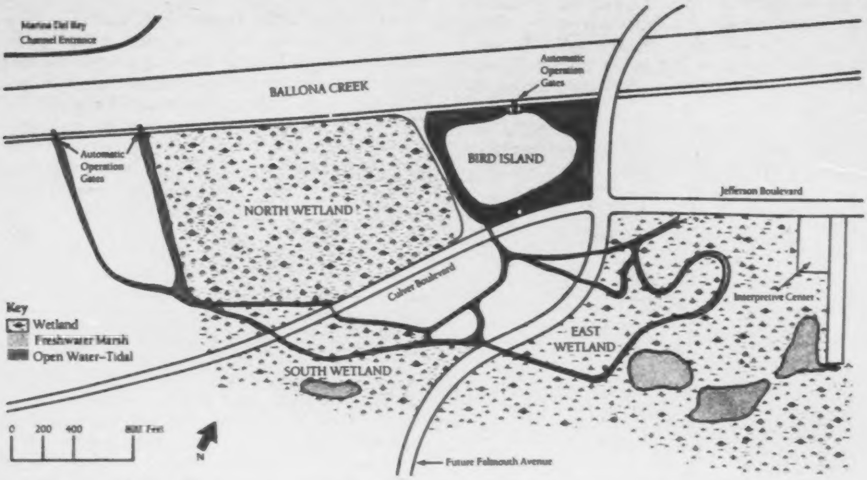
One of the lessons learned from the Hartz Mountain and the proposed Hughes projects is that severely manipulated and degraded wetlands can be very expensive to restore. Both Hartz and Hughes are trying to undo decades of environmental maltreatment, with no prior experience with restoration projects of this scale, no blueprints to work from, and no guarantees that the work will be successful. Nonetheless, the track record of restoration projects continues to improve.

Several recent studies illustrate why some mitigation efforts succeed while others fail.

- In a review of 14 tideland restoration projects in the San Francisco Bay Area, the Bay Conservation and Development Commission found that six of the projects were deemed successful, five were only partially successful, and three had failed. The primary reason why the three restoration projects failed was that some portion of the required work was not performed: some well-designed projects were never fully implemented. For example, in one project involving a small fill, a developer was required to create a one-quarter-acre marsh to offset the effects of placing 6,000 square feet (two-fifths of an acre) of fill in a tidal inlet. According to the BCDC report, this project failed chiefly because at least a portion of the work was never carried out. The problem lay in the permit itself, which *authorized* removal of fill but did not specifically *require* it. In addition, the permit did not set a specific date for completing the mitigation. Although a plan for removing the fill was approved in 1983, a site inspection in 1987 found little evidence that any fill had been moved.

  In another example, the city of Vallejo, California, was required to return 63 acres of seasonal wetlands along the Napa River to tidal action in exchange for filling about 11 acres of wetlands and for dredging an unspecified area of marsh and mudflats in the Napa River for a marine construction facility. BCDC granted the original permit in 1974 for a small fill and extensive dredging, and authorized additional dredging and filling over the next several years. The city acquired a 63-acre mitigation site, but as of March 1988

FIGURE 4.3
SCHEMATIC ENGINEERING PLAN FOR BALLONA WETLANDS


Marina Del Rey Channel Entrance
BALLONA CREEK
Automatic Operation Gates
Automatic Operation Gates
BIRD ISLAND
Jefferson Boulevard
NORTH WETLAND
Culver Boulevard
Interpretive Center
Key
Wetland
Freshwater Marsh
Open Water–Tidal
EAST WETLAND
SOUTH WETLAND
0 200 400 800 Feet
N
Future Falmouth Avenue

Source: National Audubon Society, "Ballona Wetland Habitat Management Plan," facing p. 24. Draft submitted to the City of Los Angeles for Review and Adoption, November 1986.

had not performed the required work. The BCDC report noted, however, that natural forces had returned much of the 63-acre site to tidal action.[2] One of the problems with this project was that the city was allowed to dredge and fill without completing the required mitigation. Perhaps BCDC should have required the city to perform the mitigation in advance of, or concurrent with, the dredging and filling.

A study of 63 restoration projects completed in coastal California between 1954 and 1985 discovered that 65 percent of the projects were wholly successful, 25 percent were partially successful, and only 10 percent were entirely unsuccessful. Success varied significantly according to the type of organization responsible for the restoration: private sector restorations had a higher success rate (63 percent) than those of federal (50 percent) and state (40 percent) agencies. The successful projects generally benefited from accurate preconstruction elevation analyses and some post-construction monitoring, and were completed by the private sector or local agencies. Typically, the unsuccessful projects suffered from poor preconstruction engineering analysis, infrequent monitoring, and skimpy review by regulatory agencies. The study evaluated success according to two criteria: whether or not certain wetlands functions were similar between the restored and natural wetlands; and whether or not the project met its goals.[3] Increasingly, the private sector, is taking the lead in wetlands restoration and seems to be doing a better job of restoration than is government.

Although it promises to bring dead wetlands back to life, restoration it not without its drawbacks. In general, by allowing developers to fill perfectly good wetlands in exchange for restoring those of poor quality, acre-for-acre restoration leads to a net loss of wetlands because even damaged wetlands usually have some value, however slight, for wildlife, flood control, or recreation. On the other hand, some disturbed wetlands have lost their valuable qualities through years of abuse, and any restoration is therefore a plus. In any case, to compensate for the loss in values and for the possibility that not all of the restoration will be successful, regulators increasingly demand that the size of the restored area must be larger than the area being filled. Just how much larger often depends on the nature and extent of the wetlands values lost due to fill and the likelihood of success of the restoration. Regulators typically rely on fixed, but somewhat arbitrary ratios of wetlands restored to wetlands filled, since it is difficult to measure wetlands values accurately and objectively. Other regulatory authorities determine the restore-to-fill ratio on a case-by-case basis.

The following two examples, one from Florida and the other from Wisconsin, illustrate how developers have successfully restored wetlands.

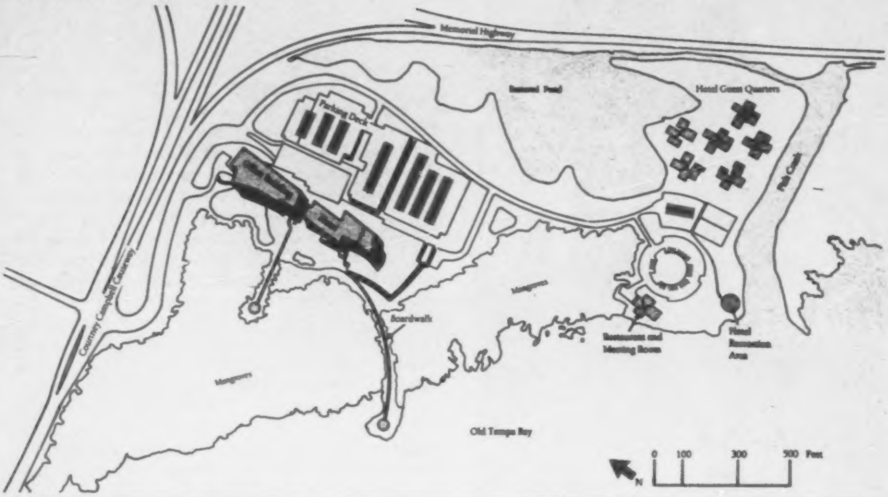
BAYPORT PLAZA
TAMPA, FLORIDA

On the shores of Old Tampa Bay in Florida lies a $75 million, 46-acre office/hotel complex called Bayport Plaza. Located just a stone's throw from Tampa International Airport and only about four miles from downtown Tampa, the project boasts one of the area's most convenient and attractive business locations. It includes an 11-story, 259,000-square-foot office building, a 400-room Hyatt Regency Hotel, and over 25 acres of thriving wetlands. Before development, the site was considered an eyesore—a weed-infested, badly abused area that contained old cars, mattresses, bathtubs, and other debris that people had illegally dumped for years.

The trouble started back in the 1960s when a Memorial Highway bridge was built across a small tidal creek, called Fish Creek, that linked a tidal pond with Old Tampa Bay. A culvert was placed under the bridge to allow water from the bay to flow in and out of the pond. Gradually, however, the culvert became so obstructed with debris that the water flowing through it was reduced to a trickle. Cut off from the ebb and flow of the salt water, the brackish pond and marsh was gradually converted to a freshwater pond and marsh. Native salt-tolerant plants died and were replaced by aggressive, invading, weedy plants such as Brazilian Pepper

The 259,000-square-foot office building and 400-room Hyatt Hotel stand less than 75 feet from a mangrove swamp in Tampa Bay. The swamp contains an abundance of birds such as roseate spoonbills and snowy egrets. The birds seem oblivious to the noisy airplanes departing from and arriving at nearby Tampa Airport.

FIGURE 4.4
BAYPORT PLAZA SITE PLAN



Source: The Wilson Company, Tampa, Florida.

and the ubiquitous cattail, which grow in dense stands at the expense of other plants. Fish, shrimp, crabs, and other sea creatures were doomed. And when they disappeared, so did the bevy of shorebirds that depended on them for food.

In 1984, however, The Wilson Company restored the tidal pond and its surrounding wetlands and preserved over 70 percent of the site as open space. Other developers had ignored the site because it contained wetlands and because it was a popular dumping ground. But it is also a prime commercial location: close to the airport and downtown, and right on the water.

Restoring Life to a Damaged Site

It took about two and one-half years to obtain the 27 permits that were required for project approval. The four main permitting agencies were the Tampa Port Authority, the Corps, the Florida Department of Environmental Regulation (DER), and the Hillsborough County Environmental Protection Commission. The agencies required only minor changes in the company's original plans. For example, the proposed entranceway was moved to a new location to avoid creating a traffic problem. But moving the entranceway meant that about two acres of wetlands would have to be filled. In exchange, The Wilson Company created two acres of wetlands on site. The company was to some extent fortunate that it was not developing a pristine wetland; the regulatory agencies would have been much tougher. Since the site was so badly degraded and was becoming environmentally sterile, the agencies generally looked very favorably on Wilson's development and mitigation plans.

The Wilson Company bought an option on the site in 1982 and hired an ecologist to undertake an environmental assessment. The ecologist walked the site to identify wetlands and any other potential limitations. The company wanted to know the opportunities and limitations of the site before making an offer to buy it. Of the approximately 45 acres, only 13 were considered developable. The remaining 32 acres would remain undeveloped. Satisfied that it could work with those constraints, Wilson bought the site in 1984.

The mitigation began in 1984 and was completed before the hotel was opened. The company's goal was to restore the tidal pond and adjacent wetlands to something resembling their original condition. The first thing it did was take out the trash; it hauled out over 200 truckloads. Next, it dredged Fish Creek, dug a new

An elevated boardwalk leads through the mangrove swamp to a gazebo, which sits on the site of a former radio tower.

channel connecting the creek to the pond, and uprooted and cleared dense thickets of Brazilian Pepper. In place of the peppers, the company planted native shrubs such as wax myrtle and sea myrtle, along with an assortment of marsh grasses. Returning tidal ebb and flow to the pond killed off the dense stands of cattail, which cannot withstand the higher salt concentrations of sea water. In their place sprouted native mangrove plants, which rapidly recolonized the site naturally.

The company also created two acres of salt marsh out of uplands by carefully excavating a filled marsh to the proper depth and hand-planting cordgrass sprigs throughout. (The marsh had previously been filled to provide road access to radio towers.) Over the years, mangroves colonized the edge of these filled areas. In addition, the company built a boardwalk through the marsh leading to a gazebo built on the foundations of an old radio tower. The whole mitigation process took about three years. Altogether, in exchange for filling about two acres of marsh, the company created over two acres of new marsh and restored approximately 15 acres of wetlands, including a six-acre tidal pond.

Initially, the state and local agencies were skeptical that the pond restoration would work. But when the restoration was completed, the project was judged a success. Indeed, in 1985, it received the Florida Audubon Society's Corporate Award for an environmentally sensitive development, the first time the award was given. Long-absent shorebirds quickly returned to the refurbished pond, apparently unconcerned by the presence of the office/hotel complex. According to Debora Kohne of Florida DER: "Although the site is bordered by a highway on one side and a hotel on the other, you can still find just about every kind of shorebird there. I would give the project a blue ribbon."

The Wilson Company estimates that it spent about $250,000 to evaluate the environmental conditions of the site, restore the pond, and create about two acres of salt marsh, and an additional $1 million to purchase the Fish Creek property, the area now occupied by the marsh pond, and four adjacent acres of upland. The investment was well worth it. The restoration provides an aesthetically pleasing environment that attracts tenants. The building was fully leased within three years. Like many other successful mitigation projects, The Wilson Company hired an ecologist very early in the planning process to identify and delineate wetlands, develop a restoration plan, and guide it through the environmental permit process. Today, this is standard practice in Florida.

Lessons Learned

- Do your environmental homework upfront. Before you purchase a site, find out if it contains wetlands or

After years of decay, this brackish marsh was brought back to life when The Wilson Company dug a channel reconnecting the wetland to Tampa Bay.

other potential limitations and adjust your purchase price and development plans accordingly.

After carefully thinking through the development plans, meet with some public interest groups to solicit comments on the plans. At Bayport Plaza, The Wilson Company met with the Audubon Society, the Sierra Club, and the local Environmental Coalition. Developers must display concern for the environment, be knowledgeable about the issues, and follow through with their commitments.

PROJECT DATA

Developer
The Wilson Company
Tampa, Florida

Architect
Thompson, Ventulett, Stainback & Associates
Atlanta, Georgia

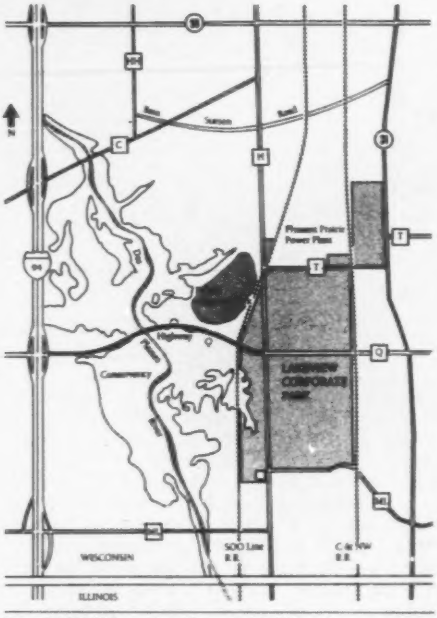
Environmental Consultant
Mangrove Systems
Lutz, Florida

LAKEVIEW CORPORATE PARK
KENOSHA COUNTY, WISCONSIN

The Des Plaines River originates in the farming country of southeastern Wisconsin and winds its way south before entering the Chicago metropolitan area. Adjacent to the river, WISPARK, a subsidiary of the Wisconsin Energy Corporation, is developing a corporate park in Kenosha County, Wisconsin. The complex, called Lakeview Corporate Park, includes a 1,200-acre business park, a 150-acre office park, and a 600-acre conservation area on the Des Plaines River floodplain. In addition, a 100-acre lake, formerly a gravel pit, lies immediately northwest of the business park.

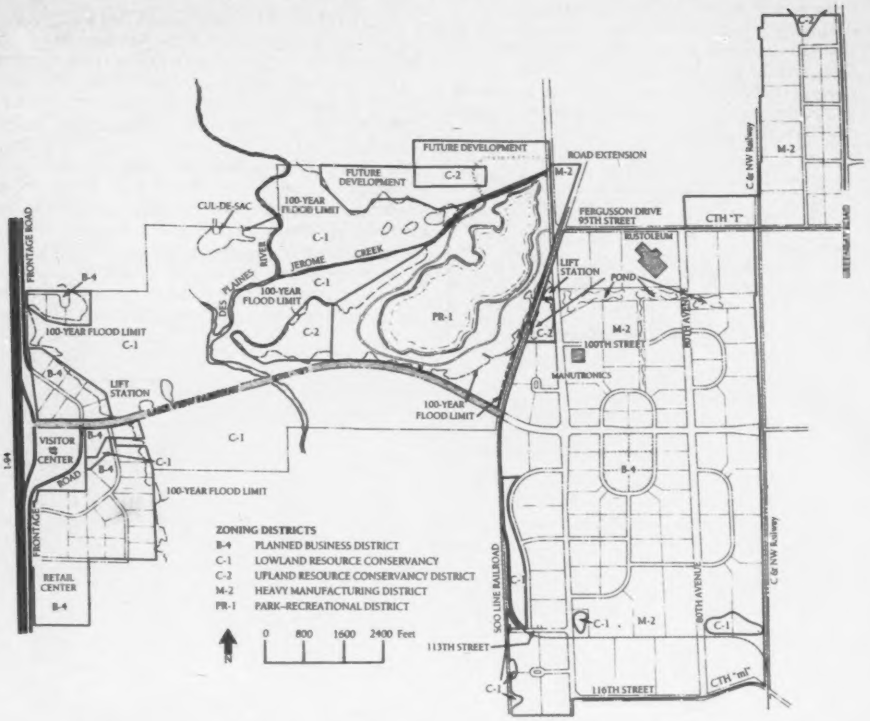
From a business standpoint, the site is ideally located midway between Chicago and Milwaukee, one mile north of the Illinois border and only 1.5 miles from I-94, but it had one drawback: the river prevented direct

FIGURE 4.5
LOCATION MAP OF LAKEVIEW CORPORATE PARK



Source: WISPARK Corporation, Pleasant Prairie, Wisconsin.

FIGURE 4.6
SITE PLAN OF LAKEVIEW CORPORATE PARK


FUTURE DEVELOPMENT
ROAD EXTENSION
FUTURE DEVELOPMENT
C-2
M-2
M-2
C-2
CUL-DE-SAC
100-YEAR FLOOD LIMIT
FERGUSSON DRIVE 95TH STREET
CTH "T"
C-1
RUSTOLEUM
FRONTAGE ROAD
DES PLAINES RIVER
JEROME CREEK
LIFT STATION
POND
B-4
100-YEAR FLOOD LIMIT
C-1
PR-1
C-2
C-2
M-2
100TH STREET
80TH AVENUE
100-YEAR FLOOD LIMIT
C-1
MANUTRONICS
B-4
LIFT STATION
100-YEAR FLOOD LIMIT
VISITOR CENTER
B-4
C-1
I-94
B-4
C-1
ROAD
B-4
100-YEAR FLOOD LIMIT
FRONTAGE
C & NW Railway
ZONING DISTRICTS
B-4 PLANNED BUSINESS DISTRICT
C-1 LOWLAND RESOURCE CONSERVANCY
C-2 UPLAND RESOURCE CONSERVANCY DISTRICT
M-2 HEAVY MANUFACTURING DISTRICT
PR-1 PARK–RECREATIONAL DISTRICT
RETAIL CENTER
B-4
SOO LINE RAILROAD
C-1
80TH AVENUE
C-1
M-2
C-1
N
0 800 1600 2400 Feet
113TH STREET
C-1
116TH STREET
CTH "ml"

Source: Howard Needles Tammer & Bergendoff, Architects Engineers Planners, Milwaukee, Wisconsin.

access to the interstate. County Highway Q ran part way through the parcel, but stopped just short of the river. The missing link was completed in 1988 when a bridge and two miles of highway were built by the State of Wisconsin, Kenosha County, and WISPARK. The bridge and highway construction involved filling several acres of wetlands and floodplain. In exchange, the company created over 30 acres of wetlands, several acres of floodplain, and donated over 400 acres of wetlands and floodplain to The Nature Conservancy—one of the largest conservation groups in the United States. The project illustrates how conservation groups and business can collaborate to create an environmentally and economically sound development.

Minimizing Wetlands Filling

Development along the Des Plaines River corridor in northern Illinois has led to major floods downstream in both urban and suburban Chicago. Consequently, the Corps is extremely reluctant to permit any additional development in the river's floodplain or adjacent wetlands. About 10 years ago, the Wisconsin Department of Transportation proposed to extend County Highway

Q. That proposal, however, was opposed by EPA and rejected by the Corps on several grounds; in particular, there was no compelling need for the road, and the river crossing would destroy several acres of valuable wetlands and floodplain.

Learning from the Department of Transportation's mistakes, WISPARK developed a proposal in 1987 that was appealing to both EPA and the Corps. Not only would the project provide much needed jobs (a Chrysler plant had recently announced plans to close its doors), but it would also compensate for any adverse environmental impacts. In 1988, the Corps issued a permit with the following conditions: the project must not exacerbate flooding; WISPARK must establish a permanent conservation easement for its land in the floodplain, and the project must minimize wetlands impacts. WISPARK met all three conditions. It agreed to fill no more than the bare minimum (11 acres) needed to build a bridge across the river and for the corporate park itself, create wetlands and wetlands ponds out of floodplain to compensate for the fill, and establish a conservancy district for 413 acres of wetlands, wet prairie, and floodplains. Instead of the straight-line route proposed by the Department of Transportation, which would have involved filling what EPA considered high-value wetlands, WISPARK chose a route for the bridge that would circumvent most of these wetlands.

After receiving its permit from the Corps, WISPARK brought in The Nature Conservancy, a private, nonprofit, conservation organization, to carry out the restoration and manage the conservancy district. The Nature Conservancy, which was given fee title to the 413 acres, subsequently hired Applied Ecological Services, Inc. (AES), an environmental consulting firm in Juda, Wisconsin, to develop and implement the mitigation plan.

Bringing Back Fires

The existing wetlands varied from sites dominated by one or two plants such as reed canary grass to relatively diverse wetlands associated with wet prairies and floodplains along the river. Overall, the quality of the wetlands was poor.

Over the years, weeds had squeezed out native plants, primarily because natural controls, such as fires, that kept the weeds in check were absent. Historically, natural fires periodically burned the wetlands and wet prairies in the Midwest. Native plants tolerate and even depend on periodic burning, whereas exotic plants usually do not. Thus, the absence of fires allowed the weeds to proliferate, and was probably the single most important factor in the loss of species diversity (cattle grazing also played a part). In addition, the Des Plaines River was historically a pristine, gravel-bottom river. As a result of prolonged soil erosion from farms within the watershed, however, it is now a silt-laden river. Over time, thick layers of silt accumulated in the wetlands and floodplain and smothered native plant seeds, while robust weeds, such as reed canary grass, easily grew through the silt. The combined lack of fires and heavy buildup of silt gradually changed the complexion of the floodplain and wetlands along the Des Plaines River. But the mitigation plan, when fully implemented, will turn things around by bringing back some of the natural controls, like fires. Aggressive plants such as cattail and reed canary grass, which can dominate a site, are held in check when periodically burned.

In the course of this project, a total of 15.8 acres of wetlands/floodplain were filled—four for the corporate park and the remainder for the bridge. In exchange, WISPARK created out of floodplain two wetlands, one of 5.5 and one of 9.2 acres, and six small wildlife ponds totaling nine acres. The ponds vary in size from about 0.75 to 1.5 acres and are about five feet deep. They will contain a mixture of emergent, submergent, and floating vegetation and will be managed primarily to benefit flood control and wildlife. The existing 413 acres of wetlands, wet prairie, and floodplain are being restored to a system that will contain predominantly native plants. WISPARK also expanded the floodplain to compensate for the reduction in flood storage capacity that resulted from the bridge fill. For every acre-foot of flood

Steve Apfelbaum, Applied Ecological Services

Once common in the prairies throughout the Midwest, fires will again be used to control exotic plants in the restored wetlands.

Buried for years by silt and a thick growth of reed canary grass, the long-dormant seeds of native prairie plants sprout anew on this wetland/wet prairie site prepared out of a floodplain. Although most revegetation will occur naturally, some seeding occurred to give the fledgling wetland a boost.

Steve Apfelbaum, Applied Ecological Services

storage lost by filling wetlands and floodplain, WISPARK created an equivalent amount of flood storage by excavating an adjacent area of upland to a level equal to that of the existing floodplain.

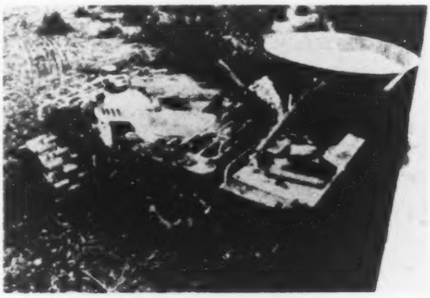
Natural Revegetation

WISPARK's original proposal called for seeding most of the site with seeds from native wetlands and wet prairie plants. The seeds, however, are hard to come by and would cost about $600,000. Brent Haglund, then director of the Wisconsin chapter of The Nature Conservancy, now president of the Sand County Foundation, offered to do more with less. An avowed cheapskate, Haglund felt that $600,000 was too much to spend on seeds, and so the conservancy, in consultation with AES, submitted a revised proposal to the Corps.

Under this proposal, which the Corps accepted, WISPARK gave the conservancy $567,000 to manage the entire 413 acres, including the created wetlands: half of the money went into a permanent fund to pay for long-term management of the site, and the other half is being used for start-up costs associated with the restoration. Rather than buy seeds, the conservancy will sow the seeds of regeneration simply by creating the conditions that favor native wetlands and wet prairie plants over exotics. For example, in areas with thick stands of weeds such as reed canary grass, AES will scrape off the sod and expose the native, dormant wetlands and wet prairie seeds buried below. According to Steve Apfelbaum at AES, "There is a good seedbank of native plants in the substrate, so by manipulating the site, much of the revegetation will occur naturally." The Nature Conservancy will also work with upstream farmers and the Soil Conservation Service to reduce erosion and thus decrease the river's silt load. Eventually, after the native plants become fully established, the conservancy will harvest and sell the seeds produced for use at other restoration projects. The proceeds will help pay for management of the site.

Some seeding will occur in selected areas—for example, on the upland areas around the created wetlands and at one of the created wildlife ponds. In addition, the created wetlands will be planted with a cover crop of smartweed and with annual grasses such as barnyard grass to stabilize the soil until the native plants emerge and become well established. Fire will be an important management tool. Prescribed burning, which will occur about once a year for the first few years, then less so later, will keep the weeds at bay. Already, about 200 acres have been burned.

The conservancy will also conduct a modest research program on marsh and wet prairie restoration. One of the wildlife ponds created will be planted with a variety of wetlands plants, while the others will be allowed to revegetate naturally. The research program, although not on the same scale as the proposed Wetlands Research, Inc., project downstream, will monitor the natural succession of created wetlands and compare the performance of wetlands that were seeded or planted with those where Nature was allowed to run its course. In contrast to the Wetlands Research project, in which heavy construction equipment was used to reshape the environment and where the depth and flow of water will



This specially modified all-terrain-vehicle was used to plant seeds in wetlands while exerting little pressure on the spongy wetland soils.

be carefully controlled, most of the WISPARK restoration will occur naturally; there will be very little physical manipulation of the environment.

Both the Corps and EPA have stated that this project could serve as a model for development and preservation of natural areas, particularly wetlands. The only apparent problems with the project are that two of the six ponds were improperly graded; the side slopes were graded too steeply, at about 4:1, whereas the mitigation plan approved by the Corps called for a much more gradual slope, more like 8:1. The ponds will therefore be regraded. This is not unusual; most mitigation projects require a certain amount of adjustment and fine-tuning, especially during their first year or two.

Lessons Learned

- Plant cover crops to control erosion and to give desirable wetlands plants a head start over weeds.
- Prescribed burning of emergent wetlands, particularly in the Midwest, will effectively control invasion by exotic plants.
- Whenever possible, take advantage of natural revegetation.

PROJECT DATA

Developer
WISPARK Corporation
Pleasant Prairie, Wisconsin

Environmental Management
The Nature Conservancy, Wisconsin Chapter
Madison, Wisconsin

Environmental Consultant
Applied Ecological Services
Juda, Wisconsin

ENHANCEMENT

> "Human interventions into nature can be creative and indeed can improve on nature, provided that they are based on ecological understanding of natural systems and of their potentialities for evolution as they are transformed into humanized landscapes."
>
> *René Dubos*[4]

When a wetland that is difficult to create, such as a forested wetland, is altered, frequently the most feasible mitigation option is to create an entirely different type of wetland. Rather than try to replicate a forested wetland, which may take over 50 years, it may be prudent to create a marsh that can be established in a shorter period of time and that may be more valuable to fish or wildlife than the previous wetland. This is referred to as wetlands enhancement: selectively enhancing a wetland to boost one desirable attribute, such as waterfowl habitat, over another, such as flood control. For example, a scrub-shrub, forested wetland may be excavated and converted to a pond with a fringe of emergent wetlands plants, or a relatively common wetland could be altered to provide habitat for an endangered species.

Critics of wetlands enhancement argue that it should not be considered an equitable exchange for wetlands fills since it usually results in a net loss of wetlands. Enhancement jeopardizes less desirable (and less fashionable) wetlands traits and subjects other equally valuable wetlands qualities to the whims of the regulatory agencies or developers. For example, a state fish and game agency may support enhancing a wetland to provide additional habitat for bass or ducks, whereas a water management agency may prefer to enhance the wetland for the purposes of water supply or water treatment. In one project, a dense, forested wetland, cut in half by an access road, was partially enhanced. One half of the forested wetland was transformed into a well-landscaped detention pond, surrounded by ornamental plants, a manicured lawn, and an asphalt path. The other half was left alone. Although the natural, unenhanced wetland is more productive from a biological standpoint, residents of an adjacent development view it as an eyesore and a breeding ground for bugs, while the detention pond is seen as beautiful.

Enhancement does have its place; it can create a more diverse overall ecosystem, as illustrated by the following two projects. But like many other forms of mitigation, enhancement involves tradeoffs.

BROOKSHIRE ESTATES
KING COUNTY, WASHINGTON

According to a former King County, Washington, planning official, just about every subdivision developer in the state of Washington wants an entrance pond that makes an entrance "statement." The developer of Brookshire Estates, a 40-acre, single-family residential development in King County, was no exception. At the entrance to the project lies about one acre of a 12-acre forested wetland. The northernmost corner of the wetland, which is dominated by western red cedar and sitka spruce, was a wet meadow that had previously functioned as a cattle pasture. When developer John Buchan first laid eyes on the site in 1985, he envisioned an entrance road featuring a grassy knoll leading down to a richly landscaped pond. The King County Planning Department, however, had other ideas. Its strict wetlands regulations, which were revised in 1989, make it very difficult to alter wetlands. The regulations state that wetlands "shall not be disturbed or altered" unless:

- the wetland does not serve any of the valuable functions of wetlands, including wildlife habitat and natural drainage; or
- the proposed development would preserve or enhance the wildlife habitat, natural drainage, and/or other valuable functions of wetlands.[5]

The county rejected Buchan's initial proposal on the grounds that it would destroy the existing, albeit disturbed, wetland.

A stand of cattails encircles most of this manmade pond; young alder, cedar, and spruce trees form a backdrop.

Buchan was able, however, to craft a compromise design that would meet the intent of the wetlands regulations while increasing the wetland's functional values. He enhanced what was considered an ordinary, relatively low-value wet prairie by replacing it with an open-water wetland that serves primarily as waterfowl habitat but also provides stormwater detention and a visual amenity. Since the existing wet prairie was the lowest spot on the property, it was the logical location for a detention pond, which is required by the county. A narrow (25-foot) berm was built between the adjacent, forested wetland, which was left intact, and the newly created open water. To tie the two wetlands together, the berm was planted with the same tree species that commonly occur in the forested wetland, such as cedar, spruce, dogwood, and alder. The berm also helps to keep stormwater runoff out of the forested wetland. Together, the berm and forested wetland form a lush backdrop to the manmade pond.

Creating the entrance pond involved excavating part of the existing wetland to create four different wetlands environments: a shallow emergent marsh (up to two feet deep), aquatic beds (two to four feet deep), shallow open water (four to six feet deep), and open water (over eight feet deep). Cattail, bulrush, pond lilies, and other species were hand-planted at appropriate elevations—for instance, cattail in the emergent zone and pond lilies in shallow open water. Since most landscapers dislike working in open water and muck, the landscape contractor developed a unique planting system which enabled workers to keep their feet dry. Plant tubers were placed in burlap bags that were weighted down with gravel and dropped off the edge of a small boat at different locations. The bags sank to the bottom of the pond where the submerged tubers later sprouted into the surrounding mud. Cattail tubers were placed in nylon mesh bags to restrain their prolific growth until other plants become firmly established.

On a geological time scale, wetlands are ephemeral environments. Sedimentation eventually causes wetlands to proceed through a number of stages: from open water to shallow marsh and eventually to upland. Wetlands enhancement at Brookshire Estates took a wet prairie a step back in time by converting it into an earlier stage of geological development. In the process, the county gained a more diverse wetland and the developer obtained the access road and entrance statement he wanted. "The wetland," remarked an official at the John Buchan Construction Company, "has tremendous marketing appeal."

The wetlands enhancement was completed in 1987, before many houses were built, at a cost of about $20,000 (not including the land, which was cheap).

Tampering with wetlands often involves tradeoffs. In this residential development, a small wet prairie became a multi-purpose pond and now provides stormwater detention, wildlife habitat, and an attractive entrance.

According to Doug Webb of Subdivision Management, Inc., which provided planning and management for the project: "You get the wetland free when you buy the good land." Thus far, the enhancement appears to be successful.

Lessons Learned

- Regulators and developers can reach a compromise more easily if they meet at the development site, where they can get a feel for the project, rather than around a conference table.
- Careful planning beforehand minimizes regulatory conflicts later.
- Acknowledge that wetlands regulations are here to stay and learn to work with them. Either left alone or enhanced, wetlands often increase the value of a project.

PROJECT DATA

Builder/Developer
John F. Buchan Homes
Bellevue, Washington

Land Planning/Management
Subdivision Management, Inc.
Bothell, Washington

Environmental Planning
Shapiro & Associates, Inc.
Seattle, Washington

Landscaping
Tutko Landscaping and Nursery, Inc.
Redmond, Washington

Engineers
GeoDimension
Kirkland, Washington

Ostergaard-Robinson
Everett, Washington

HAIG POINT
DAUFUSKIE ISLAND, SOUTH CAROLINA

Haig Point is located along the South Carolina coast, on the northernmost headland of Daufuskie Island. Only five miles long and 2.7 miles wide, with three miles of ocean shoreline, the 5,200-acre island is positioned obliquely along the Savannah River entrance and Calibogue Sounds, about one mile landward from Hilton Head Island. By boat, the island is about 10 miles from Savannah. With a maximum elevation of only 30 feet, the island contains over 950 acres of wetlands.

In the early 1980s, a group of developers formed the Daufuskie Island Land Trust and bought an option on about 2,300 acres of land—which was comprised of three plantation-era tracts—from the Plantation Land Company. The trust, led by the land planning firm of Edward D. Stone, Jr., and Associates, developed a master plan for the three tracts, which are called Haig Point (1,040 acres), Oak Ridge (532 acres), and Webb (741 acres). In 1984, International Paper Realty Corporation of South Carolina (IP) purchased the Haig Point tract, with an option to buy the remaining two tracts.

Built in 1872 and now restored, this lighthouse serves as a guesthouse for Haig Point.

Haig Point, which is being developed first, is designed to be an exclusive residential community of about 950 dwelling units on 1,040 acres. It will feature recreational amenities such as golf, tennis, and swimming for residents, members, and guests only. The market is primarily for second-home buyers. Oak Ridge is envisioned to be a mixed-use community with a golf course, a resort hotel, and a beach club, while the Webb tract will be the marine center of the three tracts. Webb will contain a marine complex that includes a 54-acre marina, a commercial area, and a major ferry terminal. The marina will feature a 94-slip river marina, a 40-acre inland harbor with 284 slips, and capacity for 450 boats in dry stack. The Webb tract will also house a golf course, tennis courts, a hotel, and a harbor-oriented village center.

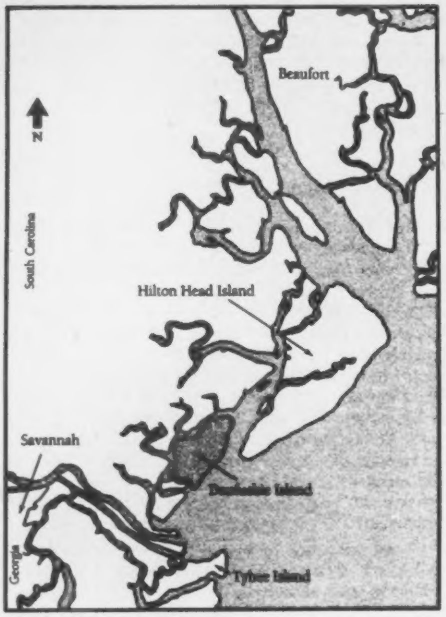
Thus far, over half of Haig Point is developed, but no development has taken place on either the Oak Ridge or Webb tracts. As of January 1990, Haig Point contains 532 single-family lots and 30 multifamily units, a unique, world-class 20-hole golf course (two holes are optional), and a nine-hole golf course. The gross average density for the three tracts will be 1.26 units per acre, with a total of 2,956 units planned.

Permitting

Altogether, over 35 permits from over 20 agencies were needed for this project, including permits from the South Carolina Coastal Council (SCCC), the South Carolina Department of Health and Environmental Control, and the Beaufort County Joint Planning Commission. In 1981, the Daufuskie Island Land Trust received preliminary approval from Beaufort County for a PUD of about 2,900 units on over 2,400 acres. In 1982, the trust obtained master-plan approval from SCCC, whose jurisdiction includes salt marshes, waters of the coastal zone, critical areas, and some beachfront.

IP did not need a Corps Section 404 permit for any of its initial work at Haig Point, even though substantial dredging, particularly for the golf course construction, and some filling was involved. First of all, the Corps does not require a permit for dredging wetlands, as long as the dredged material is not deposited in wetlands. Secondly, the small amount of fill in the forested wetlands predated the Corps' expansion of its jurisdiction over "adjacent" wetlands, which occurred after the *Riverside Bayview* decision. Nonetheless, in keeping with its philosophy of environmentally sound development, IP mitigated any adverse impacts, even though there was no regulatory requirement to do so.

FIGURE 4.7
LOCATION MAP OF DAUFUSKIE ISLAND



Source: International Paper Realty Corporation of South Carolina.

A Special Place

Daufuskie Island has always had a certain mystique about it. Isolated and unreachable by car, it was seen as the last island untouched and unspoiled by developers. The Daufuskie Island Land Trust knew that in order to overcome local resistance, it would have to design a project that minimized adverse environmental impacts and compensated for any damage done. IP took extra steps to preserve the historic and natural features of the island, and it shows. Elevated boardwalks carry pedestrians and golf carts from low-lying areas to the coastal uplands and protect the salt marshes below. The developer also buried all utility lines to avoid cluttering the landscape. No filling or dredging will occur in the salt marshes, and the developer compensated for all disturbances to the forested wetlands.

Probably the most important step the developer took to protect the island's fragile ecosystem was to exclude the automobile. Like Mackinac Island, Michigan, no cars are allowed at Haig Point; transportation is by horse and buggy, bicycle, electric golf cart, or on foot. In addition, IP restored a historic lighthouse, built in 1872, which now serves as a guesthouse. And a 79-year-old mansion was barged 100 miles up the Atlantic Intracoastal Waterway from its previous site on St. Simon's Island, Georgia, to serve as a guesthouse and restaurant. As a result, the SCCC praised the master plan for Haig Point as one of the most environmentally sensitive proposals it had ever reviewed. The entire island is on the National Register of Historic Places.

IP's wetlands mitigation plan fit perfectly with the construction of the golf course. A considerable amount of sand and dirt was needed to build up the dramatic tees and greens. Rather than ship it in from far away, IP excavated sand and dirt from several different locations on site and created two- to eight-acre lakes out of the resultant holes. Each lake is fringed with "littoral shelves"—shallow steps that support native wetlands plants such as torpedo grass, lizards tail, and pickerelweed. The whole project was well orchestrated. As the lakes were dug, the perimeter was graded to the proper elevation to create a littoral shelf into which native plants were hand-sprigged. Since different plants prefer different water depths, a separate zone of the shelf was created for each plant species introduced. The shelves were carefully constructed around the lakes to ensure that they would flood to a depth that is appropriate for each plant. After the lakes were dug, shelves graded, and native plants transplanted from the surrounding

Most of the holes on the golf course play over or around the wetlands. To minimize damage to the wetlands, boardwalks, like the one shown in the background, carry both pedestrians and golf carts over the wetlands.

(Before enhancement) A variety of plants such as blue flag and pickerelweed were hand planted in this freshwater marsh, which was formerly a narrow, seasonally flooded swamp forest containing black gum, sweet gum, and red maple trees.

(After enhancement) Three months later, the wetland supports a healthy stand of mixed emergents; many of the plants have already produced seeds.

marshes, the water level was allowed to rise to a predetermined level. In creating the lakes, the developer agreed to maintain a buffer of forested wetlands in order to minimize wildlife disturbances.

IP agreed to seek a comprehensive permit for all future wetlands work on the island. Under this innovative approach, all state, federal, regional, and local resource agencies could, for the first time, look at all likely cumulative aspects of IP's development proposal for its 2,320 acres on the island. During the 30-month review process, which involved numerous on-site meetings with the Corps, EPA, FWS, and several state agencies, IP reduced its request for fill from 31 acres to only eight acres. After several revisions to satisfy the concerns of the resource agencies, the Corps issued a permit for the project.

Adding Ecological Diversity

The remaining development of Haig Point and of all of the Webb and Oak Ridge tracts involves filling some eight acres of isolated, nontidal freshwater swamp forests for roads and other residential land uses. In exchange, IP proposed to create about 50 acres of open-water and freshwater wetlands out of upland areas by grading and excavating upland areas to a minimum depth of six feet below the water table. The 50 acres will be comprised of 6.3 acres of new freshwater marsh wetlands and 43.7 acres of new open-water lake systems. Unlike the island's forested wetlands, which dry up occasionally during prolonged dry spells, the lakes will retain water year-round. The new freshwater marsh system will cost approximately $140,000 over the course of the future development on Daufuskie Island.

Found primarily in long troughs between ridges, freshwater wetlands on Daufuskie Island have been altered by years of farming. The newly created lakes and associated marshes have greatly increased the diversity and numbers of animals on the island, while also increasing groundwater recharge and pushing back saltwater intrusion. IP expects that the addition of open water to the island will enhance the island's overall ecological diversity. In addition, the wetlands plants will take up any excess nutrients, including fertilizers, that are washed off the golf courses and help prevent eutrophication of the lakes—a problem that has plagued some of the lakes at nearby Hilton Head. This assumption did not, however, wash well with some of the regulatory agencies, who complained to the Corps that IP could have further reduced the amount of its wetlands conversion.

IP estimates that it spent approximately $510 per 1,000 square feet of littoral shelf created—a good investment. "The introduction of open water is good for the island environment, and even better for real estate," said Ray Pantlik, director of engineering, planning and research at IP. As of January 1990, IP had created five acres of new freshwater or salt marsh habitat at a cost of about $107,000.

Lessons Learned

- Hire an ecologist/consultant to help design the project and the mitigation. An ecologist gives the developer credibility with the regulatory agencies and suggests that the developer is making a sincere effort to protect sensitive resources. At Daufuskie Island, an ecologist was part of the initial planning team.
- Meet with the Corps before you meet with resource agencies such as the FWS and EPA. The Corps will delineate wetlands, inspect the site, and give you a good idea of the mitigation requirements.
- Do not rely on aerial photographs and large-scale wetlands maps to delineate the wetlands on your site. Aerial photographs are excellent tools for preliminary planning but cannot be relied on for final detailed planning. At Haig Point, aerial photographs indicated that the project would involve altering or filling about 22 acres of wetlands. But a field inspection revealed that only about eight acres of wetlands would be disturbed. On the other hand, a field inspection may also indicate that there are more wetlands than previously thought.

PROJECT DATA

Developer
International Paper Realty Corporation
of South Carolina
Hilton Head, South Carolina

Landscape Architect and Planner
Edward D. Stone, Jr., & Associates
Fort Lauderdale, Florida

Golf Course Architect
Rees Jones, Inc.
Montclair, New Jersey

Project Ecologist
Dr. Joe A. Edmisten
Pensacola, Florida

Civil Engineers
Thomas and Hutton Engineering Company
Savannah, Georgia

Land Sciences Corporation
Fort Lauderdale, Florida

CREATION

> "The whole difference between construction and creation is exactly this: that a thing constructed can only be loved after it is constructed; but a thing created is loved before it exists."
>
> *Charles Dickens, Preface to Pickwick Papers (1836)*

Wetlands creation, last in the sequence of mitigation steps and last of the strategies to be discussed here, is probably first in people's minds when they think of wetlands mitigation. This strategy involves creating wetlands from scratch; turning dry woods into swamps, sandy shores into salt marshes. Creation has generated more heated debates and been the subject of more journal articles than any other form of mitigation. Why all the fuss? In general, environmental groups, resource agencies, and a number of prominent biologists oppose this form of mitigation because, they assert, it is fraught with risk and uncertainty. In contrast, wetlands creation is strongly supported by the Corps, developers, and especially by a cadre of environmental consultants who traipse around the country creating wetlands where none existed before, including mangrove forests in Florida, tidal flats in California, and freshwater marshes in Illinois—with varying degrees of success.

Building a wetland sounds easy enough. Wetlands occupy low-lying areas, contain water-loving plants, and fill at least occasionally with water. On paper, all you have to do is remove the existing vegetation, dig a hole, fill it with water, sprig in some wetlands plants, invite a few animals, and let Nature take care of the rest. In a few years, no one will ever know the difference. It is, of course, more complicated than that.

Like all natural systems, wetlands are complex, dynamic environments that have evolved over millennia. They occur in places where the natural conditions were favorable for their formation: the topography, soil conditions, hydrology, and climate were just right. The delicate interdependencies among wetlands plants and animals are not fully known and therefore difficult to recreate. Superficially, artificial wetlands may appear equal to natural wetlands, but on closer inspection subtle, but important, differences often emerge. For example, created and natural wetlands may contain similar plant mixes, but a new wetland may lack the nutrient-cycling capabilities and productivity of a natural wetland. Ideally, the created wetland should provide the same functions, such as flood control or groundwater recharge, as the destroyed wetland. Realistically, replacing all wetlands functions is difficult. Furthermore, a newly created wetland is a disturbed wetland, and weeds such as purple loosestrife and common reed thrive on disturbance. These aggressive plants can

This two-acre wetland was created by excavating three small ponds and constructing two small islands. Located alongside a highway, just outside Portland, Oregon, this manmade wetland was designed primarily for wildlife habitat.

One year after construction, the wetland was judged by the Oregon Department of Fish and Game as one of the more successful wetlands created in the state. Ironically, the state Highway Department has plans to fill much of the created wetland when it widens the adjacent highway.

quickly invade a freshwater site and crowd out more desirable plant species. In addition, even successfully created wetlands may become targets for development. In Washington County, Oregon, for example, a two-acre wetland containing three small ponds with islands was created adjacent to a highway in exchange for filling a one-third-acre wetland that had marginal value for wildlife. A few years later, the state highway department announced plans to fill the fledgling wetland to widen the highway.

One axiom of wetlands creation is that simplicity breeds success: the simpler the system, the easier it is to recreate. Marshes are easier than bogs, and salt marshes are easier than freshwater marshes. Salt marshes have proven to be one of the best candidates for replication. They present fewer variables with which to contend. Few plants have adapted to the harsh conditions of intertidal zones and few can stand the stress of waterlogged roots, waves, and high salinity. Weeds present less of a problem in salt marshes than they do in freshwater marshes. Along the Delaware Bay in New Jersey, for example, two grasses dominate the salt marshes: cordgrass and salt hay. These grasses can become established in a single season. By contrast, other types of wetlands, such as forested wetlands, have a more complex hydrological regime and a greater diversity of plants and animals, take a long time to develop, and are therefore much more difficult to recreate. Forested wetlands, such as bottomland hardwood forests or cypress swamps, mature slowly and may not leave adolescence until they are 50 years old. Unlike herbaceous plants, which can grow to maturity in a single season, woody plants take longer to develop and this lengthens the time required for a wetland to become established. Noted one ecologist, "A herbaceous wetland is easy to create—a piece of cake—compared to woody marshes."[6]

Several studies have evaluated the performance of created wetlands. Many attempted to determine whether the wetlands were "successful" or not. Some based success on whether or not wetlands plants were established, some simply on whether or not a 404 permit applicant met the permit requirements, and others on how well the created wetland replaced lost functional values. For example, a 1985 study of 32 wetlands created in Virginia's coastal zone as part of a 404 permit requirement found that less than half of the replacement wetlands were successfully established. The wetlands varied in size from 300 square feet to eight acres. Success was based on a project's compliance with the permit and the condition of the created wetland. Of the 32 wetlands creation sites, only 19 were completed, four were in progress, seven had not even started, and the status of the remaining two sites could not be determined. Only nine of the 19 completed sites were considered completely successful, six sites were either partly successful or unsuccessful, and at four sites it was too early to tell. The two most common causes of failure

CREATING A SALT MARSH IN LONG ISLAND, NEW YORK

In East Patchogue, Long Island, a small coastal marsh lies along an estuarine stream that enters Patchogue (pronounced patch-hog) Bay. Originally a cordgrass marsh, the hydrology of this 2,000- by 1,200-foot wetland was severely altered when a canal, constructed prior to 1970 for a residential development, was cut through the marsh to the bay. As in many disturbed wetlands, common reed quickly moved in and covered the site.

In exchange for building a dock on the canal and a walkway through the marsh connecting a residential development to the dock, a local developer agreed to restore a portion of the former cordgrass marsh. The restoration plan, designed and implemented by Dr. Ron Abrams of Dru Associates in Glen Cove, New York, called for creating a crescent-shaped cordgrass marsh along the canal bed.

The first task was to remove the thick stand of common reed that blanketed the site and to take steps to prevent its return. Typically, herbicides are used to kill unwanted plants like common reed, but state and local regulators balked at this method, fearing contamination to Long Island's precious and vulnerable groundwater. Instead, an excavator was brought in to remove the reed grass; on its first day on the job, the heavy machine sank up to its cab in mud. It took the full force of two bulldozers to free the partially submerged excavator. Abrams then constructed a temporary roadbed to support the heavy equipment.

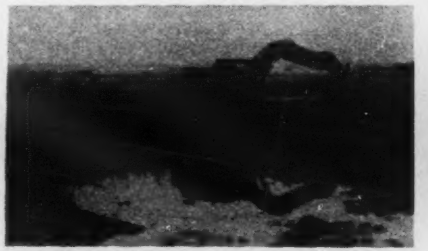
As well as physically removing the reed grass, Abrams dug a narrow, 12-foot-wide channel along the inner curve of the new wetlands site to keep the invasive reed grass at bay. Once the reed grass was finally removed, the area was filled with sandy loam from a nearby construction site, graded to the proper elevation, and prepared for planting.

Creating a salt marsh typically involves hand planting thousands of young cordgrass plants and scheduling the work around the tides. In this project, workers could only plant for four to five hours per tidal cycle. Thirty-one thousand cordgrass sprigs in peat plugs were hand planted at, on average, 18-inch staggered centers and sprinkled with time-release fertilizer. A crew of five people took 15 days to complete the planting. While waiting to be planted, the cordgrass sprigs, stored on site, had to be protected from predation by geese and muskrats, and also prevented from drying out in the hot July sun. The plants were soaked daily with freshwater from a nearby construction site. Only about 1 percent of the plants died in storage.

July: At low tide, workers hand planted over 30,000 cordgrass sprigs. Unavailable locally in such large quantities, the plants came from a nursery in Maryland.

After planting was completed, a crew of two to four people closely monitored the site for three months. They checked for predation, debris that might impair drainage, and for any remaining clumps of common reed that would allow it to gain a foothold in the new marsh. Initially, geese preyed heavily on the young cordgrass, but relatively few plants died. By the end of September, the cordgrass was three feet high and covered roughly 90 percent of the site.

The total cost for the restoration, including planning, obtaining government approvals, site preparation, planting, and two years of monitoring and maintenance, was about $60,000. According to Abrams, it cost about as much to monitor and maintain the site as it did to prepare and plant it.



June: The existing bed of common reed was excavated and hauled off site for disposal. To keep the excavator from sinking in the thick mud, a temporary roadbed was constructed.

September: By the end of the summer, the cordgrass had reached three feet tall in most places. Through diligent monitoring and maintenance, 99 percent of the plants survived.

AN EXPERIMENT IN VERNAL POOL CONSTRUCTION

Once common throughout the Central Valley region of California, vernal pools are now becoming scarce—a victim of agricultural development. For most of the year, these small, shallow depressions do not look at all like wetlands. Only during the rainy season do they become marshlike. Indeed, until a few years ago, the Corps did not even regulate fill in vernal pools.

Vernal pools may, however, soon become common again, in part because of their intolerance of weeds and exotic plants. In 1986, a new law required that 7 percent of federal highway landscaping funds be earmarked for planting wildflowers along highways. In California, many planting projects failed because the wildflowers were unable to compete with exotic plants. Typically, a project looked good for the first year or two but was then taken over by weeds. Vernal pools, though, are resistant to invasion by all but a few weeds because the pools present such hostile conditions of prolonged wet and dry periods. If such wetlands can successfully be created along highways, they can meet the federal wildflower requirement while providing additional habitat for endangered plants and animals, such as the delta green ground beetle.

To demonstrate the feasibility of replacing some of the lost vernal pools by creating new ones, the Department of Environmental Design at the University of California-Davis constructed eight interrelated vernal pools along a highway intersection near Davis, California. Four pools were constructed by compacting a mixture of topsoil found on site with bentonite to create a hardpan layer similar to that which underlies the topsoil of natural vernal pools. The other four pools were reconstructed from topsoil and hardpan excavated from nearby natural vernal pools on sites slated for development.

In order to study and compare which plants colonize the vernal pools and how quickly the plants migrate to other pools, two pools were fully seeded, four were partly seeded, and two were left unseeded. According to the designer of the vernal pools, Kerry Dawson of the Department of Environmental Design, "We wanted to see what plants colonized the pools; like throwing a party and seeing who comes."

Most of the vernal pools constructed in this experiment were seeded not only with wildflowers but also, on their upper terraces, with native grass seed and noninvasive erosion control seed intended to restrict incursion by weeds.

The ponds were constructed in the fall of 1986, and by March 1987 had filled with water from the winter rains and drowned most exotic plants. But plant cover was only about 50 percent, giving weeds a chance to invade the bare ground. The fully seeded pools contained the greatest ground cover. Researchers also discovered that certain plants, such as downingia, remain where planted and do not migrate quickly to other pools. Wildflowers grew as readily in those pools where on-site soil had been mixed with bentonite as in those pools constructed from soil taken from natural vernal pools.

Kerry Dawson, University of California-Davis

Four pools used hardpan from nearby natural vernal pools; the other four used a mixture of bentonite and on-site topsoil.

Kerry Dawson, University of California-Davis

Although a few pools still held a small amount of water by late May of 1987, most were in full bloom with lasthenia dominating.

were inappropriate grading and an absence of erosion controls.[7]

Most wetlands scientists agree that creating wetlands where none existed before is far more difficult than restoring wetlands in their original sites. They disagree, however, about whether or not it is even possible to create a wetland, and over the criteria used to gauge success.

Wetlands creation is still more of an art than a science. The following two case studies, one from Illinois and the other from Massachusetts, illustrate some of the problems and some of the successes of creation.

NORTH–SOUTH TOLLWAY
DUPAGE COUNTY, ILLINOIS

When highways and wetlands cross paths, as they often do, the result is either an immediate and total destruction of a wetland through filling, or a gradual degradation through sometimes severe changes in its hydrology. By slicing through wetlands and splitting them in two, highways can block natural water circulation and turn robust wetlands into languid pools of stagnant water. Salvaging wetlands in the path of development from imminent destruction presents an appealing, albeit problematic, solution. As this example shows, "moving" a wetland is possible, but some valuable pieces will be left behind forever.

In metropolitan Chicago, the Illinois State Toll Highway Authority is constructing a highway that is designed to relieve congestion and shorten commutes in the suburbs west of Chicago by connecting I-90 to I-55. The approximately 18-mile-long and 300-foot-wide North–South Tollway, as it is called, passes through old fields, a few residential properties, a portion of the Morton Arboretum, and over 75 acres of wetlands. Surrounded by development, most of the wetlands have deteriorated over the years. Surprisingly, however, an EIS uncovered a few wetland gems in the rough: three separate sites contained about 26 acres of extremely rare and irreplaceable wet prairie and seasonally saturated sedge

FIGURE 4.8

LOCATION MAP OF NORTH–SOUTH TOLLWAY

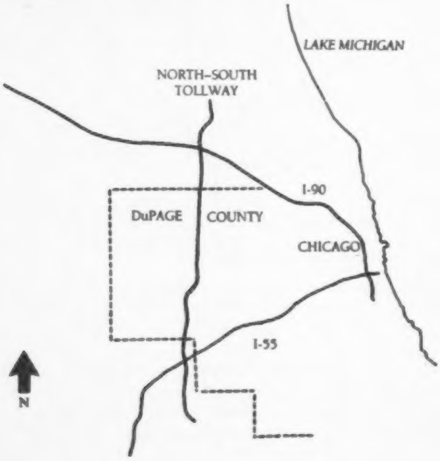
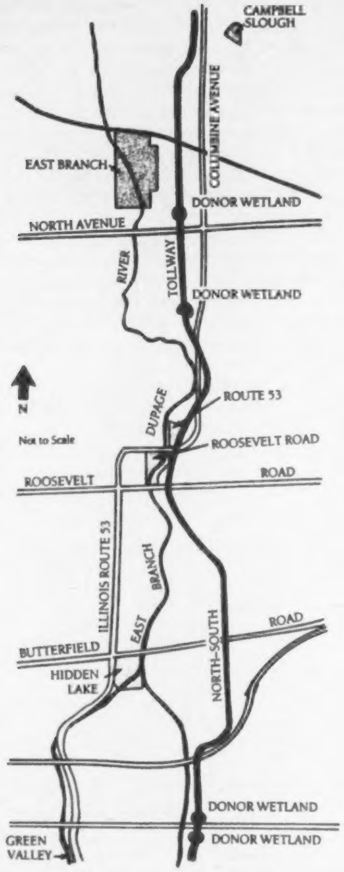


FIGURE 4.9
NORTH–SOUTH TOLLWAY WETLANDS CREATION SITES



Source: Envirodyne Engineers, Inc., Chicago, May 19, 1987.

meadow and shallow marsh containing over 300 species of vascular plants, including two state endangered species. Topographically, the 26 acres lie in depressions or drainageways that are typical features of the swell and swale terrain of recently glaciated portions of Illinois. These wetlands types historically contained very high species diversity.[8]

A wetlands working group organized by the Highway Authority's consultant, Envirodyne Engineers, Inc., and composed of representatives from state and federal agencies, the Morton Arboretum, and the Highway Authority, developed a wetlands mitigation plan that would adequately compensate for the 75 acres of fill. The group developed a plan that called for creating about 120 acres of wetlands at six nearby sites, including relocating about three acres of the high-quality wetlands by moving their plants and topsoil to a new, prepared site. The plan became a condition of the Corps permit, which was issued in October 1986.

The Highway Authority's main task was to find sites that would be suitable for creating wetlands and that could also be used as a borrow pit to meet the authority's needs for over 3.5 million cubic yards of fill to construct the highway. The authority found a willing partner in the Forest Preserve District of DuPage County (hereafter, the district), which had several suitable sites nearby, two of which could be used as borrow pits and which were later converted to wetlands. Three other sites were purchased by the authority and donated to the district. The sixth site was already owned by the district. Five wetlands sites were within the floodplain of the east branch of the DuPage River, but only one site was considered a wetland, albeit a low-quality wetland dominated by reed canary grass. And all six created wetlands will be managed by the district.

Wetlands Relocation

Initially, five sites were selected for the created wetlands: Route 53, Roosevelt Road, Hidden Lake, East Branch, and Campbell Slough. A sixth site, called Green Valley, was added later. Five of the six sites are described briefly below, followed by a more detailed description of the wetlands relocation effort at the sixth, Campbell Slough.

All the wetlands creation efforts involved excavating topsoil from wetlands that were to be filled and transplanting it to the creation sites. Except in the case of Campbell Slough, the topsoil was stockpiled while the mitigation sites were prepared. After sitting for one to two years, the rich, seed-laden topsoil was spread as a top layer at each of five sites. Some members of the working group feared that many of the seeds and plants would not survive prolonged storage. After one growing season, however, enough dormant seeds in the topsoil sprouted in their new home that no planting was necessary.

Route 53. Located directly adjacent to the North–South Tollway, Route 53 is the smallest of the five sites. When completed, the new wetland will consist of six acres of emergent wetland, 3.2 acres of open water, and about three acres of a wet prairie/sedge meadow.

Roosevelt Road. Also adjacent to the tollway, the Roosevelt Road site straddles the east branch of the DuPage River. It consists of 10 acres of open water, 10 acres of emergent plants, and about 14 acres of a wet prairie/sedge meadow.

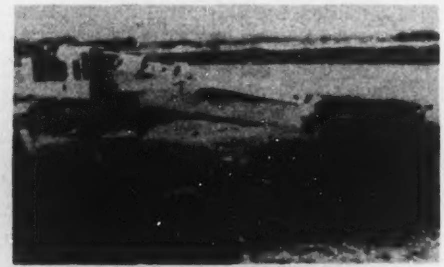
Hidden Lake. An 82-acre site, Hidden Lake was created out of the borrow pit dug by the Highway Authority. Designed primarily for waterfowl, the site contains a 16-acre lake with about four acres of emergent fringe and 12 acres of wet prairie/sedge meadow. It also contains a small meandering creek, channelized years ago, that was restored by Envirodyne.

East Branch. A 50-acre site that also served as a borrow pit for the Highway Authority, the East Branch site was also developed primarily for wildlife. It contains 23 acres of open water, a 19-acre emergent wetland, and about four acres of wet prairie/sedge meadow.

Green Valley. A 40-acre site, with 11 acres of created wetlands, Green Valley is located about five miles south of Hidden Lake. The wetland was designed as a deep water habitat bordered with zones of emergent vegetation. Upland areas around the wetland were planted with a mixture of prairie grasses and wild flowers. Green Valley is the only site that contains a gradient from prairie to wetlands habitat.

Moving Rare Wetlands to a New Home

Relocating the rare wetlands to the five-acre Campbell Slough site involved transplanting about two-and-one-half acres of wetlands topsoil from two sites—one a seasonally wet prairie , the other a seasonally inundated sedge meadow and shallow marsh. Unlike the creation efforts at the other five sites, the topsoil taken from the two donor wetlands was *applied immediately* to Cambell Slough. Campbell Slough was previously a degraded wetland that had recently been prepared to serve as a stormwater detention basin for a 130-acre watershed that includes an adjacent residential area and a highway.



Courtesy Forest Preserve District of DuPage County

"Walking" on wooden planks to keep it from sinking in the mud, a gradeall works its way down to the water's edge to spread the transplanted wetland soils.

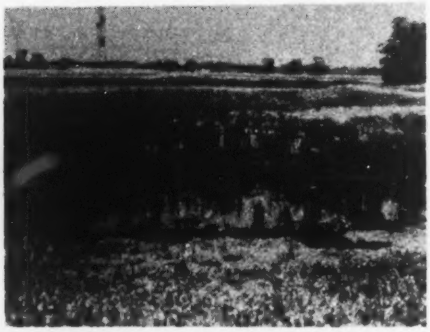
Courtesy Forest Preserve District of DuPage County

Soils from several wetlands sites were loaded onto trucks and moved to different locations nearby where new wetlands are being created.

In what has been described as a salvage operation, the Highway Authority endeavored to establish a facsimile of the rare wetlands at the site by mimicking the natural water regimes typically found in the wet prairie, sedge meadow, and shallow marsh. A 10- to 30-foot-wide flat shelf surrounds the five-acre basin, which has a maximum depth of 15 feet. An outfall structure in the pond was set to create a normal pool about nine inches above the shelf elevation that, after the 12 inches of transported topsoil had settled, would keep the soil saturated to the surface for most of the year. The designers varied the shelf elevation and topsoil thickness to create a variety of hydrological conditions ranging from permanent inundation to temporary flooding. This will allow different plants to grow at different elevations.

To "move" the wetlands, about 12 inches of topsoil from two wetlands in the path of the tollway were excavated, loaded onto dumptrucks, and hauled to the Campbell Slough site about four miles away. To minimize the loss of plants, the relocation occurred in winter, while plants were dormant. Moving the wetlands, however, was not as straightforward as it sounds. For example, one of the sites was covered with ice and about two feet of standing water, so a worker in chest-waders standing knee-deep in ice-cold water had periodically to measure and confirm that the proper elevation depth was being excavated.

The newly transported, rich wetlands topsoil, laden with seeds, root stock, rhizomes, and some entire plants was unloaded and distributed over the Campbell Slough site by bulldozers and gradealls. Bulldozers pushed the



Forest Preserve District of DuPage County

After one growing season, many of the plants from the old wetland had reemerged.

frozen material to the water's edge, and final placement required the use of two gradealls; one worked at the water's edge and the second operated from mats on the submerged shelf. The first gradeall placed the material within reach of the second, which then spread the graded material across the shelf. By repeatedly relocating the mats in front of itself, the gradeall was able to "walk" its way around the entire pond shelf and work in areas that were inundated with up to two feet of water.[9] The entire operation, including excavation of the donor wetlands, hauling, and spreading, but excluding the cost of preparing the Campbell Slough site, cost about $180,000. The work was performed over a three-week period in February 1987. Management of the newly established wetland will consist of prescribed burning and manipulation of the water level.

Although no seeding or planting occurred, the entire shelf of the new site was green by midsummer. After one growing season, plants were growing on over 40 percent of the site, after two seasons, 75 percent, and after three, 90 percent. The first prescribed burn occurred in the spring of 1989.

Altogether, creation of the approximately 126 acres of wetlands cost about $8.3 million.

So far, the project appears to be doing well. Many plants from the old site have emerged from the transplanted muck. However, Gerould Wilhelm, a botanist at the Morton Arboretum in Chicago and one of the members of the work group, cautions about applying the North–South Tollway example to other projects. "It is a totally spurious notion that one can destroy a rare, native plant community and replace it elsewhere," Wilhelm observed. "That was no ordinary wetland that was destroyed, and while parts of it were saved, it can never be fully replaced."

Problems Encountered

Geese fed heartily on the newly emerging vegetation, necessitating the replanting of certain wetlands areas. In addition, beavers ate the redwood slats found in each water-control structure. At Roosevelt Road, thousands of gulls quickly claimed the budding wetland, and their acidic excrement lowered the pH value of the surrounding soil and water and killed many wetlands plants. In response, the developer planted a cover crop of barnyard grass, which grows fast and tall and is hardier than most of the other wetlands plants. Furthermore, the wetlands substrate that was moved to Hidden Lake contained rhizomes of cattails and common reed, which have become a menace to the new wetland. Finally, the Cambell Slough wetland was hit by a 500-year flood that inundated most of the wetland and damaged or destroyed many wetlands plants.

Lessons Learned

- If possible, transplant wetlands soils in winter, when plants are dormant. Avoid stockpiling; wetlands soils, which contain a variety of seeds, roots, tubers, and microbes, can become very hot and may begin to break down when stored for long periods of time.
- Transplantation of a wetland is possible, but it is also expensive.
- A wetland cannot be replicated entirely, but most of its flora can be saved.
- Regular monitoring and maintenance is an integral part of successful mitigation.
- Include water-control structures in created wetlands to maintain the proper water levels and to allow the wetland to be periodically drained for maintenance, such as prescribed burning.
- In cold climates, if the created wetland is to contain fish, fish pockets of about 10 to 15 feet deep must be dug so that the fish may overwinter without freezing.

PROJECT DATA

Developer
Illinois State Toll Highway Authority
Oak Brook, Illinois

Planning and Engineering
DuPage County Forest Preserve District
Glen Ellyn, Illinois

Envirodyne Engineers, Inc.
Chicago, Illinois

Botanist
Morton Arboretum
Lisle, Illinois

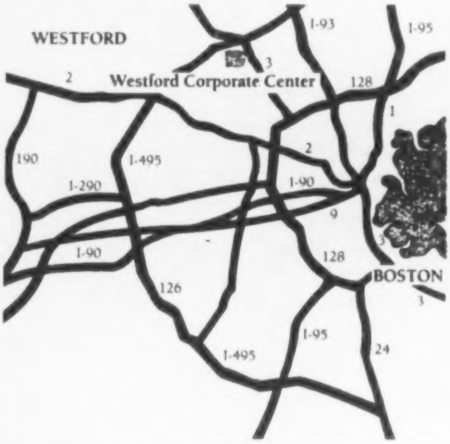
Restoration Contractor
Applied Ecological Services, Inc.
Juda, Wisconsin

WESTFORD CORPORATE CENTER
WESTFORD, MASSACHUSETTS

Located directly off Route 495 in Boston's high-tech mecca, the Westford Corporate Center consists of two 82,000-square-foot office/R&D buildings. The $13.5 million project, designed by Sasaki Associates, Inc., was a joint venture of four developers (see Project Data). Eight of the site's 18 acres contained wetlands. Sasaki, faced with the possibility of struggling through the rigorous 404 permit process, turned the wetlands from a potential hindrance into an amenity by developing a plan of closely spaced buildings surrounded on three sides by wetlands. Ten acres of the site were left as natural open space and only 1.5 acres of wetlands were filled. The filled wetlands were successfully replicated in their entirety on site. Construction started in 1985 and was completed in 1986.

About half of the site was undisturbed, including a 2.5-acre wet meadow that was an extension of an adjacent wooded swamp. The other half of the site was littered with debris, including piles of tree stumps that sank six feet deep into the wet soil and leftover gravel from construction of Route 495.

LOCATION MAP OF WESTFORD CORPORATE CENTER



Source: Sasaki Associates, Inc., Watertown, Massachussetts

Courtesy Sasaki Associates

The rather undistinguished grassy area in the foreground is actually a wetland created by Sasaki Associates.

Voluntary Mitigation

No individual 404 permit was required from the Corps since the project was covered by a nationwide permit. Under the state's Wetlands Protection Act, however, a permit (Order of Conditions) was required from the local conservation commission. Fortunately for the developers, the commission had authorized the wetlands filling for a previous owner of the site prior to the effective date of Massachusetts' regulations, which generally prohibit filling of more than 5,000 square feet of wetlands (see earlier discussion of Massachusetts's wetlands program). Under current regulations, the project's 1.5-acre fill would not be allowed. Because the fill was previously authorized, the wetlands replication was essentially voluntary, and the commission issued a permit within three months of application. No monitoring nor maintenance was required as a condition of the permit.

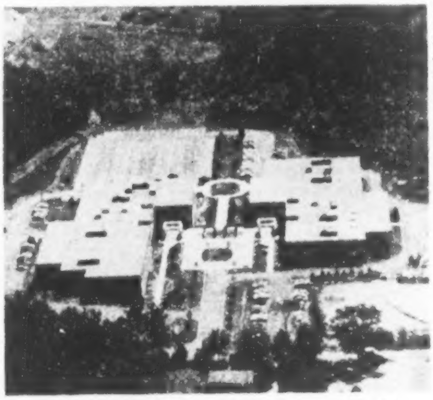
Although festooned with debris, the 1.5-acre wetland that was filled was a relatively simple wet meadow system and Sasaki's mitigation strategy was appropriately uncomplicated. In essence, mitigation involved moving the wetland from one place to another. The developer removed the old stumps that cluttered the replication site and excavated the area to an elevation approximately one foot below the elevation of the adjacent wetland. Excavation of the new wetland was one of the initial steps in construction of the office park. Silt fencing, installed between the edge of the adjacent

The Westford Corporate Center, shown here at dusk, stands on a site that was previously festooned with debris.

Courtesy Sasaki Associates

existing wetland and the replacement wetlands area, protected the existing wetland from erosion and sedimentation.

Before the 1.5-acre wetland was filled, a one-foot layer of organic material—soil, seeds, plant roots, and so on—was excavated, moved, and backfilled into the replication site, which was then graded to a slope of less than 0.5 percent from the upland edge to the edge of the existing wetland. Because proper grading is critical to the new wetland's success, engineers visited the site before the bulldozers left to ensure that the grades were correct. A mix of perennial grasses was planted to control erosion until the natural seed stock emerged from the organic muck, and silt fencing remained in place until the entire replacement wetland was stabilized with vegetative cover. Within one growing season, wetlands plants colonized the site.



Sasaki gave order to the two buildings by using an old European format of a tree-lined allee leading to a courtyard. With eight acres of wetlands on three sides, more than half of the site is preserved as natural open space.

Courtesy Sasaki Associates

The entire replication effort cost about $20,000 (less actually, because stump and debris removal would have occurred anyway). Compared to other wetlands creation projects, some of which cost over $50,000 an acre, this new wetland was a bargain.

According to Pat Loring, chairman of the Westford Conservation Commission, the new wet meadow is beautiful and "a great tradeoff for the commission." All but one of the plant species that occurred in the filled wetland, such as soft rush, tussock sedge, woolgrass, and, of course, cattail, can be found in the new wetland. Meadowsweet, however, has yet to emerge from the transplanted muck. A Sasaki engineer commented that the next time the company moves a wetland, it will stockpile certain wetlands plants and transplant them into the new area.

Lessons Learned

- Keep it simple. The more complicated the project, the more expensive and risky it becomes.
- Whenever possible, recycle the soils and vegetation in the wetland that will be filled for use in the replacement wetland. If possible, build the replacement wetland contiguous with an existing wetland.
- Make sure that the replication area is graded to accommodate the drainage needs of the wetlands plants. Grading should be done at the time of construction so that if the grading has to be corrected, all the necessary equipment is still on site.

PROJECT DATA

Developers

Old Stone Development Corporation
Providence, Rhode Island

The Lord Company, Inc.
Boston, Massachusetts

Gillespie & Company, Inc.
Boston, Massachusetts

Lee Kennedy Company, Inc.
Boston, Massachusetts

Architect/Engineer
Sasaki Associates, Inc.
Watertown, Massachusetts

GUIDELINES FOR SUCCESSFUL MITIGATION

Wetlands regulations have added a new dimension to the development process. Not too long ago, engineers would subdivide land without ever visiting a site—a practice that resulted in many applications for after-the-fact permits from the Corps. Now, however, the implications of a few prominent cases such as *Riverside Bayview* and *Attleboro Mall* have finally sunk in and developers will often hire a wetlands scientist early in the planning stage to determine whether or not wetlands are present, to identify the type and extent of wetlands, to design and oversee a mitigation strategy, and to help guide the proposal through the 404 permit process. Many developers stress the importance of bringing in people who have dealt with EPA and the Corps and who have a successful record with mitigation projects.

Nonetheless, wetlands mitigation is still a risky business that offers few if any rules to follow and no guarantees that a created or restored wetland will perform as planned. The absence of standardized designs means that every design must be tailored to fit the specific conditions found at each site. However, based on discussions with regulators, developers, and consultants, and after reviewing the examples presented here, some general mitigation guidelines have emerged, particularly for restoring and creating wetlands.

Avoid First, Create Last

Conformity with the sequence of mitigation steps defined by CEQ—that is, avoid all fills where feasible, minimize adverse impacts, and compensate for any damage done (see p. 32)—has proven to be both an environmentally and an economically sound approach to developing land containing wetlands. Not only is this approach advocated by most state and federal resource agencies, but it is also usually the simplest and least costly strategy. As one proceeds through the sequence from avoidance to creation, the mitigation becomes more complicated and generally more expensive.

Meet with the Corps

If wetlands are present, contact the district engineer of the Corps to determine if the site is covered by a nationwide or general permit. If an individual permit is required, applicants should also meet with other federal as well as state resource agencies, in order to understand and anticipate the regulatory agencies' positions and responsibilities. Applicants should discuss their development plans and show how they will reduce adverse impacts and compensate for any losses. The Corps is much more willing to approve a project if an applicant makes a "good faith effort" to mitigate any adverse impacts. Again, however, each district office is different. A project approved in one district may be rejected in another. Therefore, permit applicants must become familiar with how a local district operates and its position on wetlands filling and wetlands mitigation. In addition, a few developers have also suggested meeting with environmental groups to identify and address their concerns in advance and avoid the risk of project delays if opposition mounts.

Use Experienced Crews

Creating or restoring a wetland is both an art and a science. At its simplest, it involves moving truckloads of mud or sand from one place to another and covering the prepared site with wetlands seeds or seedlings. Although such a process is straightforward, the specifications must be exact; each wetland requires a specific elevation, substrate, hydrology, and plant type. Construction crews are often unfamiliar with, or unappreciative of, the complicated and delicate nature of wetlands ecology. As one wetlands consultant said, "Many contractors cannot tell a cattail from a great blue heron." One well-intentioned but misguided contractor dutifully went to a nursery to purchase the wetlands plants specified in the mitigation plan, which called for planting the site with pickleweed and cordgrass—two species that live in salt marshes. But instead of cordgrass, the nursery mistakenly gave him cattail, a freshwater plant. The contractor planted what he thought was cordgrass at the required five-foot centers and, a year later, all the cattail were dead and the site had to be replanted.

Develop a Mitigation Plan

A project design should incorporate a mitigation plan from the very beginning. Just as the architectural design of a building should "fit" the landscape, so should the mitigation design or plan. One developer consultant drafts mitigation plans with the help of a design team that includes land planners, environmental scientists, engineers, and landscape architects. In general, the more specific the plan is, the better the mitigation results will be. For example, instead of merely stating that the mitigation area will be covered with suitable wetlands plants, the plan should specify, say, that "spartina alterniflora will be hand-sprigged at six-inch intervals at the site and planting will be done in early spring." Researchers working on a study of 32 created wetlands in Virginia found that of seven projects whose permits included conditions that specified more than just the size and species of plants to use, six were successful;

where the Corps established a time limit for completion, three of three were successful, but where no time limit was set, only six of twelve were successful.[10]

MITIGATION PLANNING: EXPECT THE UNEXPECTED

In exchange for filling about 16 acres of forested wetlands in southern New Jersey, 32 acres of forested wetlands were created out of upland. The mitigation plan called for creating an in-kind forested wetland of primarily maple, gum, and cedar out of an upland forest dominated by red maple and black gum, including an area of cultivated blueberries and a disturbed area dominated by common reed.

Creating the wetland was fairly straightforward and involved clearing the existing vegetation, scraping off and stockpiling the top three inches of soil, excavating to three inches below the seasonal high water table, replacing the topsoil, seeding with a mix of grasses and trees, and then planting over 17,500 trees and shrubs, primarily red maples. For a number of reasons, however, over half the plants were dead after one growing season and the developer had to replant over 9,000 trees and shrubs the following year.

Although the mitigation plan called for planting a mix of 18- to 36-inch trees such as red maple, black gum, and Atlantic white cedar, and seeds for a number of other trees and shrubs, only maple saplings were readily available in large quantities and only from distant nurseries. Thus, most of the trees, including 15,000 maples, came from a nursery in Tennessee (seeds for pitch pine actually came all the way from Korea, via a nursery in Massachusetts). Trees from Tennessee were not well suited to growing conditions in New Jersey. In addition, the site became a popular area for off-road vehicles, which destroyed many of the young plants.

The primary reason for the high mortality, however, was the combination of two stressful conditions that occurred immediately after the planting was completed: an extremely wet spring in which the young plants were exposed to standing water for a prolonged period of time, followed by a drought. Although it grows in both upland and wetlands, red maple is particularly susceptible to prolonged inundation by water. Subsequent planting substituted water-tolerant shrubs, such as buttonbush, for maples.

Every mitigation plan should contain, at a minimum, the following seven components, or, as one EPA official put it, "the seven steps to Nirvana."

1. **A clear statement of the objectives of the mitigation.** The mitigation plan should establish unambiguous goals; for example, 70 percent vegetative cover with native plants by the end of the first year, 90 percent by the second year, and 100 percent by the third. Without such a statement, the success or failure of the mitigation cannot be determined.
2. **An assessment of the wetlands values or resources that will be lost as a result of the fill and of those that will be replaced.** This assessment will provide the only way to determine whether or not the mitigation will offset the resources or values lost from the wetlands alteration.
3. **A statement of the location, elevation, and hydrology of the new site.** Hydrology is the most important factor in creating a wetland. If grades are just slightly off plumb, plants will either be left high and dry or flooded. Water must be provided and controlled either by excavating down to the water table, by collecting and routing stormwater runoff to a wetland, or, as in the Ballona wetlands restoration, through a system of pumps, weirs, and gates. In one poorly designed project, a consultant installed plants inappropriate to the site's hydrology. Instead of regrading and replanting the site, the consultant simply installed a sprinkler system just to keep the plants alive—expedient yes, but not exactly successful mitigation.
4. **A description of what will be planted where and when.** Mitigation failures commonly arise from selecting the wrong plants for a site, selecting poor-quality plants, or planting at the wrong time. Studies have shown that local, indigenous plants do better than plants grown and shipped in from a distant greenhouse and that sprigs do better than seeds.
5. **A monitoring and maintenance plan.** Monitor completed projects to ensure that the objectives are met and maintain the site to keep the wetland functioning properly. Specify who will monitor, how often, and who will report on and review the results.
6. **A contingency plan.** Almost every created or restored wetland will require periodic adjustments, especially during its first year. A number of things can and often do go wrong. For example, one mitigation project involved transplanting over 23,000 wetlands plants as part of an effort to create four intertidal estuarine islands. Much of the planting occurred at night, when the tide was low. A subsequent site inspection revealed that about 30 percent of the plants had been planted upside down, and a crew had to be sent out to turn them over. Other, more typical problems are:

   Weeds. Weeds can be a problem at any site. Just as dandelions will invade the most manicured lawns, cattails, purple loosestrife, and common reed will invade restored or created freshwater wetlands. And they can quickly take over a site. They can be controlled, however, by establishing a crop of quick-growing annual grasses to cover the site and give the wetlands plants a head start on weeds, by periodic burning to kill the weeds but not native plants, or by limited applications of herbicides.

Planting a cover crop of annual grasses can backfire, however, as one disappointed consultant discovered. The consultant planted rye grass to stabilize the site and reduce invasion by weeds, but the rye proved more competitive than expected and still covered most of the site 15 months after it was planted. Confusingly, although most states require that plants such as cattail and reed canary grass—considered serious pests in some states—be controlled at restored or created wetlands, other states actually encourage these and other weeds to be planted because they provide such a quick, dense plant cover and prevent erosion.

Disturbance. In Washington, a state official has found that wetlands created adjacent to industrial areas fare much better than those created near residential developments. The reason? Children like to play in wetlands—digging holes, building dams, leaving trash, riding motorcycles—and their activities can wreak havoc with a wetland. For example, in one mitigation project in California, birds that came to feed and nest in a newly created marsh were harassed by people playing with remote-controlled toy airplanes. Wetlands near industrial areas face less human disturbance because they are usually located far enough away from where people live and play.

Predation. Muskrats, geese, and other animals can destroy a newly planted marsh. In one project, a consultant carefully planted 150 young trees in a forested wetland that was being restored. Soon after, beavers ate every tree. Some consultants install owl "scarecrows" to frighten away small birds and animals that eat young plants.

Availability of plants. Few nurseries stock wetlands plants such as cordgrass or mangrove seedlings. In addition, some states now limit the practice of "borrowing" wetlands plants from one site to use at another. The unavailability of plants may delay implementation of a mitigation plan.

A contingency plan should specify what procedures will be followed should things go awry.

7. **A guarantee that the work will be performed as planned and approved.** Some states, such as California, require that the mitigation be implemented before or concurrent with construction of a project. Once the buildings on a site are constructed, developers may run out of interest, time, and, most importantly, money to complete the mitigation. Bonding, which has long been used to guarantee delivery of promised infrastructure improvements, is now being used to ensure that mitigation work will be carried out as promised and that any flaws in a wetland will be corrected. Florida regulators can require developers to post a performance bond for mitigation projects that will cost over $25,000 or if the developer has a poor track record.

Notes

1. Personal conversation on June 2, 1989, with Mike Knowlton, deputy zoning administrator of Fairfax County, Virginia.
2. San Francisco Bay Conservation and Development Commission, "Mitigation: An Analysis of Tideland Restoration Projects in San Francisco Bay," an unpublished staff report, dated March 1988, p. 3.
3. John J. Zentner, "Wetland Restoration Success in Coastal California," in *Wetlands: Increasing Our Wetland Resources. Proceedings of a National Wildlife Federation Conference Held on October 4–7, 1987*, eds. John Zelazny and J. Scott Feierabend (Washington, D.C.: National Wildlife Federation, April 1988), p. 216.
4. René Dubos, "Symbiosis Between the Earth and Humankind," *Science*, vol. 193, August 1976, p. 460.
5. See 21.54.170 King County Code.
6. Personal conversation on October 18, 1988, with Dr. Joe Edmisten, an ecologist living in Pensacola, Florida.
7. Christopher O. Mason and Dean A. Slocum, "Wetland Replacement–Does it Work?," in *Coastal Zone 87: Proceedings of the 5th Symposium on Coastal and Ocean Management* (New York, New York: American Society of Civil Engineers, 1987), p. 1183. (The study was done by Maguire, C.E., Wetland Replacement Evaluation Contract DACWG5-85-D-0068, U.S. Army Corps of Engineers, Norfolk District.)
8. Sue Elston, John Rogner, Gerould Wilhelm, and Wayne Lampa, "Establishment of a Native Midwestern Wetland Plant Community Through Relocation of Marsh Topsoil," in *Proceedings of a National Workshop on the Beneficial Uses of Dredged Material* (Vicksburg, Mississippi: Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, November 1988), pp. 150–155.
9. See Elston, et al., "Establishment of a Native Midwestern Wetland Plant Community," p. 153.
10. Mason and Slocum, "Wetland Replacement—Does it Work?," p. 1183.

CONCLUSION

The difficulty lies, not in the new ideas, but in escaping from the old ones.

John Maynard Keynes[1]

Throughout history, people have altered wetlands to create harbors, control mosquitoes, expand farmland, and provide homesites. In the conterminous United States alone, about 100 million acres of wetlands—about half of what existed when the first European settlers arrived—have been destroyed. The United States still loses between 300,000 and 500,000 acres of wetlands each year from both manmade and natural causes. A wave of new legislation has, however, slowed the rate of wetlands losses. Incentives that once encouraged draining and filling wetlands have been replaced by restrictions. Some of the most powerful incentives rewarded farmers who converted wetlands to cropland. Today, farmers think twice before draining wetlands, thanks in large part to the swampbuster provisions of the 1985 Food Security Act. And developers, while not necessarily jumping on the "save-our-wetlands" bandwagon, have significantly reduced wetlands losses by avoiding, restoring, or creating wetlands.

Yet, despite developers' best efforts to steer clear of wetlands, more filling is bound to occur as communities seek room to grow. How can communities accommodate growth without destroying wetlands? A growing number have adopted wetlands protection ordinances that set tough standards for wetlands development. For example, in Hillsborough County, Florida, developers must provide acre-for-acre replacement for a filled wetland, periodically monitor and maintain the artificial wetland for several years, and designate the site as a permanent conservation area. King County, Washington, regulates activities in wetlands as well as on steep slopes, along streams, and in floodplains under its "sensitive areas ordinance." Under the ordinance, dredging or filling wetlands is not allowed without a permit from the county, which inventoried its wetlands and classified them according to size and value. In general, the county designated low-value wetlands under one acre as class 3, wetlands over one acre as class 2, and wetlands over five acres as class 1. Development is permitted in class 3 wetlands as long as no net loss in wetlands acreage occurs, but development is essentially prohibited in class 1 and 2 wetlands. In addition, the county also requires buffers of 100, 50, and 25 feet for class 1, 2, or 3 wetlands respectively.

Several communities rely on special area management plans to shunt development away from high-quality wetlands and to provide developers with a more predictable permit process.

States have also been active in protecting wetlands. Over the last 10 to 15 years, several states have adopted their own wetlands protection laws. Typically broader and stricter than their federal counterparts, state wetlands laws cover more than just dredging and filling and include, for example, draining and excavation. Maryland's 1989 Nontidal Wetlands Protection Act represents one of the most recent examples. The act regulates removal, excavation, and dredging of any material from wetlands, as well as filling or draining wetlands. More states, particularly in the humid East, will likely follow suit as they strive to control their wetlands losses.

Several states have developed wetlands acquisition programs. For instance, Iowa, which has lost more than

90 percent of its original wetlands, spends over $2 million a year to acquire, restore, and manage wetlands, primarily those that were drained for agriculture. The state now restores between 700 and 800 acres of wetlands per year. In addition, a growing number of private groups, such as Ducks Unlimited, are buying and restoring wetlands.

At the national level, the trend of expanding federal jurisdiction over wetlands is likely to continue. And with their newfound authority to issue administrative penalties, both EPA and the Corps will be more likely to pursue and fine wetlands scofflaws. Moreover, in contrast to their antagonistic past, EPA and the Corps have recently shown a greater willingness to cooperate. Their landmark agreement, drafted in late 1989, on a mitigation policy is the latest in a number of mutual agreements on regulating wetlands. The agreement formally acknowledges the agencies' mutual goal of following the sequence of mitigation steps—avoid first, minimize second, and compensate as a last resort—when reviewing permit requests, and embodies the concept of no net loss of wetlands, a concept previously endorsed by President Bush.

Implementing such a policy, however, has proved troublesome. Twice the White House delayed the implementation date of the agreement in response to objections raised by real estate and oil interests, particularly those in Alaska. A watered-down version of the agreement was finally released on February 7, 1990. The revised agreement maintained the agencies' no-net-loss goal but added a provision that allows those who propose to destroy wetlands to skip the established sequence of mitigation steps if an area contains a "high proportion of land which is wetlands."

Even if the agreement between the Corps and EPA had been approved in its original form, however, it would not have reduced wetlands losses appreciably. Likewise, even if the Corps and EPA were to prevent all illegal fills, they would reduce the total amount of wetland losses only slightly. By most estimates, the Corps regulates only about 20 percent of activities that destroy wetlands. The remaining 80 percent—draining, dredging, and ditching—occur legally. And although several states have enacted stricter regulations to pick up some of the slack, state laws often contain many of the same agricultural and forestry exemptions as the federal program. If the nation were serious about protecting wetlands, it would pressure state and federal legislators to enact legislation that plugs such loopholes.

Congress might also consider stiffening both the Corps' and EPA's enforcement capabilities. The agencies simply do not have the resources, nor some say the will, to enforce the regulations adequately. In the San Francisco Bay Area, for instance, the Corps has not resolved two-thirds of the 60 cease and desist orders it issued against property owners who illegally filled wetlands between 1985 and 1990. And while a few prominent wetlands enforcement cases in late 1989 and early 1990 caught the attention of the development community, enforcement still remains lax. Probably the only thing more annoying to a developer than spending considerable time and money complying with the 404 regulations, is to see competing developers ignoring the laws with impunity.

It might be argued that the courts have proven better protectors of wetlands than have EPA and the Corps. Although local, state, and federal laws regulating activities in wetlands have generated controversy and more than their share of lawsuits, they have withstood nearly all legal challenges. Typically, property owners assert that the laws constitute a taking of property without compensation, a violation of the Fifth Amendment of the U.S. Constitution. Courts have generally struck down such challenges on the basis that either the mere existence of a law or the designation of property as wetlands is not a taking, or that plaintiffs must be denied *all* economic use of their property before a taking can occur.

The consequence, whether intended or not, of many wetlands laws is to make development in wetlands such a hassle that developers will take their bat and ball and go play elsewhere. Several court cases, particularly the *Attleboro Mall* decision, underscored the uncertainty of the development process. As a result of that decision, developers must pass a very imprecise test before qualifying for a 404 permit. They must demonstrate that no practicable alternatives to wetlands filling existed at the time they entered the market, whenever that might be. The possibility of a prolonged, uncertain permit process and extensive mitigation requirements have deterred many developers from building in wetlands.

Although in an ideal world, development would never occur in wetlands, in reality, some wetlands filling will occur and new wetlands will be built or old ones refurbished to compensate for the loss. Wetlands preservation and development are not necessarily mutually exclusive, as some of the examples in this book have illustrated. Developers have shown that they can mitigate adverse impacts of their projects—not always and not in all wetlands, but certainly in some. Examples abound of where developers avoided most, if not all, wetlands alterations by carefully choosing the location of their buildings, roads, and utilities and by controlling erosion and stormwater runoff into wetlands during construction. Increasingly, developers have demonstrated that they can improve the environment by restoring degraded wetlands, including some of the most polluted and abused wetlands, such as those in the Hackensack Meadowlands. And although not all of the wetland's original values can possibly be replaced, most people would welcome such restorations.

One crucial unanswered question about mitigation is whether or not wetlands can be successfully recreated. So far, the evidence suggests that the answer will be both "Yes" and "No." Certain wetlands, such as salt marshes and mangrove swamps, are easier to create than others. Such manmade marshes come closest to replacing all the functions and values of natural wetlands. For most other wetlands types, such as bogs and bottomland hardwood swamps, however, the jury is still out. Usually, some of the more obvious functions, like wildlife habitat or flood control, of just about any wetland can be replaced. For instance, waterfowl are notoriously indiscriminate about where they rest and feed, and are as likely to be seen on a water-filled gravel pit pond as on a pristine natural marsh. But what of the less obvious values, such as nutrient recycling, groundwater recharge, or plant productivity, that defy easy detection or measurement? Should artificial wetlands be judged by appearance only? If wetlands plants, birds, and other animals are present in about the same relative mix and numbers in a new wetland as in the natural one, is that a successful project?

One wetlands biologist aptly cited urban renewal to illustrate the criteria that must be applied in evaluating the success of artificial wetlands: "When you restore an ailing city center, it's not successful once the buildings are renovated. People must move in; business must attract consumers; profits must be made; crime rates must fall. It's not successful until functions are restored. And it won't be persistent unless some compatible mixture of residential, commercial and industrial activities is provided."[2] Perhaps EPA and the Corps should develop standards for development in wetlands to reflect the relative difficulty of recreating different wetlands types—strict regulations for bogs, more lenient for salt marshes. If we treat all wetlands equally, we are likely to end up with a very limited range of wetlands types.

While federal, state, and local agencies and governments work to establish mitigation standards, ongoing wetlands research projects may shed new light on different mitigation techniques and help eliminate some of the current uncertainties associated with creating new wetlands. For example, the Wetlands Research, Inc., project along the Des Plaines River will help unravel some of the damp, dark secrets of wetlands ecosystems. In addition, the Corps has been conducting its own wetlands research for years through its waterways experiment station in Vicksburg, Mississippi. The experiment station designed the restoration of Point Mouillee Marsh as well as several other wetlands. EPA has recently initiated a number of studies to review the performance of manmade wetlands nationwide. And following the National Wetlands Policy Forum's recommendation to expand substantially federal research on wetlands creation and restoration, both the Corps and EPA will probably increase their research efforts.

The results of these and other projects, however, will not be forthcoming for several years. In the meantime, development marches on and new discoveries about wetlands restoration and creation will continue to arise from developer-sponsored mitigation projects. Such projects have taught important lessons about constructing wetlands, such as establishing the proper hydrology, using native plants, controlling weeds, and protecting fledgling wetlands from disturbances. One successful and now widespread wetlands creation technique is to salvage as much of the existing wetland as possible and move it to its new location: in practice, this entails scooping up an eight- to 10-inch layer of muck containing seeds, rhizomes, and roots of wetlands plants, as well as nutrients, organic matter, and invertebrates, hauling this mixture to the site of the new wetland, and spreading it around the properly graded new site. This technique was successfully applied at several projects, including the Westford Corporate Center and the North–South Tollway.

In some parts of the country, off-site mitigation sites have become a scarce commodity. In the San Francisco Bay Area, for example, it is almost impossible to find an available, affordable site for off-site wetlands mitigation. Most of the shoreline is either very expensive, has already been developed, or contains a perfectly good wetland that does not need restoring. This puts regulators in a difficult position of either denying permits for projects that are otherwise in the public interest, approving them without mitigation, or allowing the mitigation to be located far off-site and with perhaps a different type of wetland.

Mitigation banking offers one possible solution to this dilemma. Despite some initial setbacks, mitigation banks will probably become more popular, both because of their convenience and also because they provide a reasonable solution to the problem of mitigating small, isolated wetlands fills. Several states that have explicitly authorized mitigation banks, but have not yet used them, may activate them in light of the National Wetlands Policy Forum's endorsement of mitigation banks.

For better or worse, wetlands mitigation is here to stay. Like most new fields of study, much of what is learned is by trial and error. Some techniques have proven effective and have been used to create or restore wetlands throughout the United States. Others involve significant risks and should be used with restraint until the problems can be worked out. As yet, no standard criteria to determine wetlands values and no consistent mitigation guidelines have emerged—although EPA is working on establishing such guidelines. With no standards and few models to guide would-be mitigators, that developers and their consultants have been successful at all is equally commendable and surprising.

What lies ahead? Developers should anticipate facing tougher mitigation standards as well as greater demands for compensation for projects in wetlands. Regulators will be expected to become familiar with the different approaches to development in wetlands and able to identify those mitigation techniques that have proven effective and those that have not. And defenders of wetlands can take some comfort from the fact that an increasing number of developers are restoring tired and tattered wetlands, leaving healthy ones intact, and, only after all other options have been exhausted, carefully moving those that are in the way.

For the moment, those who are considering developing in wetlands should bear three things in mind:

Location counts. Many state and local governments have enacted their own wetland laws, which vary in stringency. Activities allowed in one state or county may be forbidden in another. And coastal wetlands tend to be more vigorously regulated than inland wetlands.

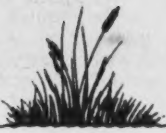
Abide by the rules. To the uninitiated, the federal 404 permit process may seem like a labyrinth of bureaucratic requirements. Indeed, the permit process can be tortuous and complex for those insensitive to the Corps' and, in particular, EPA's interests in preserving wetlands. Generally, however, the process is fairly straightforward. Before applying for a permit to fill wetlands, developers should conduct a thorough search of alternative, nonwetland sites and make every effort to mitigate adverse environmental impacts of a proposed project. If federal or state agencies object to what they consider avoidable wetlands filling, developers may find themselves suffering through extensive permit delays and expensive redesigns.

Approvals far exceed denials. As a whole, the nation still favors development over preservation of wetlands—judged, at least, by the laws and programs designed to regulate development in wetlands. The Corps still approves a substantial majority of the applications it receives to fill wetlands. Granted, many of these permits require some sort of wetlands creation or restoration in exchange for fill, but the fact remains that the Corps seldom denies a permit to fill wetlands. And EPA rarely uses its 404(c) authority to veto a Corps permit.

Notes

1. From Keynes's preface to *The General Theory of Employment, Interest and Money* (London: 1936), p. viii.

2. Joy B. Zedler, "Why It's So Difficult to Replace Lost Wetland Functions," in *Wetlands: Increasing Our Wetland Resources. Proceedings of a National Wildlife Federation Conference held on October 4–7, 1987,* eds. John Zelazny and J. Scott Feierabend (Washington, D.C.: National Wildlife Federation, April 1988), p. 121.



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APPENDIX

COMMON AND SCIENTIFIC NAMES OF PLANTS MENTIONED IN THE TEXT

Common Name	**Scientific Name**
alkali bulrush	*Scirpus robustus*
arrow-arum	*Peltandra virginica*
arrowhead	*Sagittaria latifolia*
bald cypress	*Taxodium distichum*
barnyard grass	*Echinochloa crus-golli*
black gum	*Nyssa sylvatica*
black mangrove	*Avicennia nitida*
blackrush	*Juncus jerardii*
blue flag	*Iris versicolor*
bog laurel	*Kalmia polifolia*
Brazilian Pepper	*Schinus terebinthifolius*
cattail	*Typha* spp.
common reed	*Phragmites communis*
cordgrass	(see also salt marsh cordgrass)
cranberry	*Vaccinium macrocarpon*
downingia	*Downingia ornatissima, pulchella, bella*
fox sedge	*Carex vulpinoidea*
glasswort	*Salicornia* spp.
Humboldt Bay owl's clover	*Orthocarpus castillehoides* var. *humboldtensis*
lizards tail	*Saururus cernuus*
mangrove	See black mangrove and red mangrove
meadow-foxtail	*Alopecurus howellii*
meadowsweet	*Spiraea latifolia*
northern white cedar	*Thuja occidentalis*
Pacific cordgrass	*Spartina foliosa*
pepperbush	*Clethra alnifolia*
pickerelweed	*Pontederia cordata*,
pickleweed	*Salicornia virginica*
pitch pine	*Pinus rigida*
pitcher plant	*Sarracenia purpurea*
pond cypress	*Taxodium nutans*
popcorn flower	*Plagiobothrys undulatus*
purple loosestrife	*Lythrum salicaria*
red mangrove	*Rhizophora mangle*
red maple	*Acer rubrum*
reed canary grass	*Phalaris arundinacea*
salt hay	*Spartina patens*
saltgrass	*Distichlis spicata*
salt marsh cordgrass	*Spartina alterniflora*
smartweed	*Polygonum* spp.
soft rush	*Juncus effusus*
sweet bay	*Magnolia virginiana*
sweetgum	*Liquidambar styraciflua*
torpedo grass	*Panicum repens*
tupelo gum	*Nyssa aquatica*
tussock sedge	*Carex stricta*
Venus-flytrap	*Dionaea mucipula*
water hemp	*Acnida cannabina*
wax myrtle	*Myrica cerifera*
willow	*Salix* spp.
woolgrass	*Scirpus cyperinus*

10/31/90

SECTION-BY-SECTION SUMMARY
THE WETLANDS CONSERVATION AND MANAGEMENT ACT OF 1990

The major current Federal wetlands conservation and management law is the "dredge and fill" permitting program authorized by Section 404 of the Federal Water Pollution Control Act. The Section 404 program requires a permit from the Army Corps of Engineers for the deposit of any "dredge or fill" material into a "water of the United States", including jurisdictional wetlands.

The 404 program has been controversial since its inception in 1972. The program is essentially administered by two Federal agencies, the Army Corps of Engineers and the Environmental Protection Agency, which has veto authority over the Corps' decision to issue a 404 permit. The program has been criticized as failing to cover certain activities that are destructive to wetlands; for covering lands, particularly privately owned lands, that are only marginally wetlands; for being unduly restrictive and inflexible; for creating a needless bureaucratic morass for private citizens and local governments; for trampling on private property rights; and for failing to provide incentives and flexibility to encourage private landowners and wetlands users to act responsibly and invest in wetlands restoration, enhancement and preservation.

The Wetlands Conservation and Management Act of 1990 replaces the current Section 404 of the Federal Water Pollution Control Act with a new Section 404 that attempts to correct the shortcomings of the current 404 program. This legislation broadens the 404 program to cover additional specific activities that are destructive to wetlands; narrows the jurisdictional scope of the program to functional wetlands; creates three categories of wetlands with the highest category being more strictly regulated than are wetlands under today's program, the middle category being treated similarly to today's program and the lowest category being essentially unregulated; provides that the classification of land as a highest category wetland is a "taking" for which just compensation of fair market value must be made; provides a balancing test for determining if a 404 permit should issue for covered activities in the middle category of wetlands; encourages the establishment of state programs that attempt to address wetlands conservation on an ecosystem basis; and unifies the program in the Army Corps of Engineers.

Section 1. This Act may be cited as the "Wetlands Conservation and Management Act".

Section 2. This section contains the Congressional findings and purposes that form the foundation for this legislation.

Section 3. This section deletes the current Section 404 of the Federal Water Pollution Control Act and replaces it with a new Section 404. The provisions of the new Section 404 will be reviewed in detail following the review of the remaining three sections of the bill.

Section 4. This section amends Section 503 of the Federal Water Pollution Control Act to add definitions of "wetlands" and "normal farming activities". The definition of wetlands is the wetlands definition that appears in the current Corps of Engineers regulations implementing the Section 404 permitting program. The definition of "normal farming activities" provides that the Cooperative Extension Service for each state, in consultation with the land grant and agricultural universities, shall identify the activities to be exempted as "normal farming activities".

Section 5. This section provides technical amendments necessary to conform the new Section 404 to existing law, particularly as contained in the Federal Water Pollution Control Act.

Section 6. This section provides that the effective date of the new Section 404 shall be ninety days after the date of enactment. Section 404 permits issued prior to the effective date shall remain in force and effect unless revoked, modified or rescinded by this Act. Permit applications pending on the effective date shall be governed by the new Section 404 provisions.

The new Section 404 contained in Section 3 of the Act provides the following:

Section 404(a) - prohibits the following activities from occurring in wetlands or waters of the United States without a permit issued by the Secretary of the Army:

- the discharge of dredge and fill material into waters of the U.S. or wetlands;
- draining or excavating wetlands; and,
- burning vegetation at a specific site on wetlands.

Section 404(b) - authorizes the Secretary to issue permits for the above prohibited activities in accordance with the provisions of the new Section 404.

Section 404(c) - provides that the Corps of Engineers shall decide within 30 days whether an application for a permit covers an activity in a wetland and, if so, the classification of the wetland involved. This subsection sets forth the criteria for classification of a wetland as Class A (highest value), Class B or Class C, based on the functions and values of the wetland in question. This subsection also provides that an applicant owning lands subject to an advance classification as a Type A, B or C wetland may obtain from the Corps of Engineers a de novo determination of its classification.

Section 404(d) - provides that any person, including a state or political subdivision thereof, that owns an interest in land that has been classified as Type A wetlands may notify the Corps of Engineers, within 30 days, that he is electing to seek fair market value compensation for such interest.

Within three months of such notice, the Secretary shall make an offer of fair market value compensation. Within one year thereafter, the owner shall, at his discretion, accept the offer of compensation; file a claim in the United States Claims Court for a determination of value; or notify the Secretary that he elects not to accept compensation under this section. The takings provision relates to the surface rights to property only unless the taking of the surface rights impairs substantially the development of any mineral interests on the property. Acceptance of the offer shall transfer title in the surface of the land to the United States.

A judgment by the Claims Court may be executed by the landowner against the United States at any time within 2 years after the judgment is rendered. Prior to execution of the judgment, the landowner may enter into an agreement with the United States to accept compensation through tax benefits, an exchange of interests or through other such means of non-monetary compensation.

The takings provision does not apply to water rights and nothing in this statute shall change the applicability of state or local water law. Lands acquired through this mechanism by the United States shall be managed by the United States Fish and Wildlife Service as part of the National Wildlife Refuge System.

Section 404(e) - provides the terms and conditions under which the Secretary may issue 404 permits. In Type A wetlands, permits shall not issue unless the activity would cause only de mininus surface disturbance; the overriding public interest requires the use of the land; or the proposed use of the land, including all proposed mitigation, will result in overall environmental benefit, including the prevention of coastal erosion.

In Type B wetlands, permits may issue, with appropriate terms and conditions, after balancing a number of factors set forth in the section. The Secretary may require alternative site analysis when the proposed activity would disturb 10 or more acres. There shall be a rebuttable presumption that the purpose of the project as defined by the applicant is binding on the Secretary. The project purpose for projects sponsored by public agencies shall be binding on the Secretary.

In Type B areas, mitigation requirements shall be included where the permitted activity will result in the permanent loss or degradation of the wetlands. Mitigation shall include minimization and avoidance, where practicable, preservation, enhancement, restoration, contribution to a state mitigation bank program, off-site compensatory mitigation, in-kind contributions, the construction of coastal erosion protection projects and other such measures. Mitigation requirements may be waived under certain circumstances set forth in this subsection.

The Secretary shall establish a mitigation banking program in each state that provides a preference of large scale projects, allows private entities and public entities to sponsor the banks, provides for crediting of contributions and transferral of credits, provides assurance of appropriate maintenance and supervision for at least 25 years of useful life, and limits activities in banked wetlands.

Activities in Type C wetlands may occur without a permit from the Secretary. The Secretary may establish a self-certification process and reporting requirements for Type C wetlands that have not been classified under the mapping program.

Decisions on applications for projects in Type B wetlands shall occur within 6 months of filing. The Secretary may issue general permits for categories of activities in Type B wetlands if he determines that such activities, both when performed separately and cumulatively, will not result in the significant loss of ecologically significant wetlands values and functions. Nationwide, general or regional permits in effect on the date of enactment of this act shall remain in effect.

Section 404(f) - exempts certain activities from the permitting requirements of Section 404, including normal farming, silviculture and ranching activities; maintenance of water, flood control and transportation structures; construction or maintenance of farm or stock ponds or irrigation ditches; construction of temporary sedimentation basins on construction sites; construction or maintenance of farm or forest roads or temporary roads for using mining equipment; activities undertaken on prior converted farm lands; and activities that are consistent with an approved state or local land management plan.

A state or local government agency acting pursuant to an express state authority may develop a land management plan with respect to lands that include identified wetlands. The Secretary shall approve the plan within 60 days of submittal if the plan is consistent with the objectives and policies of the new Section 404.

Section 404(g) - provides the rules for delineating wetlands. The rules shall be established pursuant to public notice and opportunity for comment. The rules shall implement the definition of wetlands, but may not result in the delineation of lands as wetlands unless clear evidence of wetlands hydrology, hydrophytic vegetation and hydric soil are found to be present; may not classify as hydrophytic any vegetation that is more typically adapted to dry soil conditions; may not classify lands as wetlands unless obligate wetlands vegetation is found to be present; may not result in a finding of wetlands hydrology unless water is found at the surface for at least 21 days during the growing season in a majority of the years for which records are available; or may not classify as wetlands those lands that are temporarily or unintentionally created as a result of development activity.

Section 404(h) - provides for the advanced classification of wetlands by the United States Fish and Wildlife Service, in consultation with the Soil Conservation Service. The project shall be completed within 10 years of the date of enactment, classify wetlands into type A, B and C, wetlands and provide for public notice and an opportunity for a public hearing in each county, parish and borough where land is being classified. The specific classification decisions shall be made public through several different mechanisms and shall be recorded in the property records of the parish, county or borough, to the fullest extent practicable.

Section 404(i) - provides that the rules and regulations implementing the new Section 404 shall be adapted pursuant to public notice and an opportunity for comment. Permanent rules shall be adopted within 1 year. Temporary rules shall be adopted within 90 days of enactment.

Section 404(j) - provides for enforcement of the provisions of this section through compliance orders by the Secretary and civil actions in Federal court. Civil penalties shall not exceed $25,000 per day of violation.

Section 404(k) - provides for the treatment of covered activities undertaken as part of the construction of a Federal project specifically authorized by Congress.

Section 404(l) - provides that this Act shall not preclude or deny the right of a state or interstate agency to control the discharge of dredged or fill material in a navigable water within the jurisdiction of such state.

Section 404(m) - provides for the delegation of the program established by this section to the states under certain specific terms and conditions.

I

101st CONGRESS
2d Session

H. R. 5968

To amend the Federal Water Pollution Control Act to establish a comprehensive program for conserving and managing wetlands in the United States, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

October 27, 1990

Mr. Hayes of Louisiana (for himself, Mr. Ridge, Mr. Thomas of Georgia, Mr. Tauzin, Mr. Young of Alaska, Mr. Dyson, Mr. Valentine, Mr. McCrery, Mr. Baker, Mr. Bateman, Mr. Bunning, Mr. Hanson, Mr. Craig, Mr. Denny Smith, Mr. Callahan, Mr. Thomas of Wyoming, Mrs. Vucanovich, and Mr. Sisisky) introduced the following bill; which was referred jointly to the Committees on Public Works and Transportation and Merchant Marine and Fisheries

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A BILL

To amend the Federal Water Pollution Control Act to establish a comprehensive program for conserving and managing wetlands in the United States, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Wetlands Conservation and Management Act of 1990".

SEC. 2. FINDINGS AND STATEMENT OF PURPOSE.

(a) Findings.—The Congress finds that—

(1) wetlands play an integral role in maintaining the quality of life through material contributions to our national economy, food supply, water supply and quality, flood control, and fish, wildlife and plant resources, and thus to the health, safety, recreation and economic well-being of citizens throughout the Nation;

(2) wetlands serve important ecological and natural resource functions, such as providing essential nesting and feeding habitats for water fowl and other wildlife, including many rare and endangered species, the enhancement of water quality, natural flood control, recharging of aquifers and accumulation of sediment discharge;

(3) the Nation's wetlands resource base has sustained significant degradation, resulting in the need for effective programs to limit the loss of ecologically significant wetlands and to provide for long-term restoration and enhancement of the resource base;

(4) because 75 per centum of the Nation's wetlands are privately owned and because the majority of the Nation's population lives in or near wetlands areas, an effective wetlands conservation and management program must reflect a balanced approach that conserves and enhances important wetlands values and functions while observing private property rights and

providing the opportunity for sustained economic growth; and

(5) the Federal permit program established under section 404 of the Federal Water Pollution Control Act was not originally conceived as a wetlands regulatory program and is insufficient to assure that the Nation's wetlands resource base will be conserved and managed in a fair and environmentally sound manner.

(b) PURPOSE.—The purpose of this Act is to establish a new Federal wetlands regulatory program to—

(1) assert Federal regulatory jurisdiction over a broad category of specifically identified activities that result in the degradation or loss of higher value wetlands;

(2) account for variations in wetlands values or functions in determining the character and extent of regulation of activities occurring in wetlands areas;

(3) provide sufficient regulatory incentives for conservation, restoration, or enhancement activities;

(4) encourage conservation of resources on an ecosystem basis to the fullest extent practicable; and

(5) balance public and private interests in determining the conditions under which economic activity in wetlands areas may occur.

SEC. 3. WETLANDS CONSERVATION AND MANAGEMENT.

Title IV of the Federal Water Pollution Control Act (33 U.S.C. §§ 1341 et seq.) is amended by deleting section 404 and inserting in lieu thereof the following new section:

"SEC. 404. PERMITS FOR ACTIVITIES IN WETLANDS OR WATERS OF THE UNITED STATES.

"(a) PROHIBITED ACTIVITIES.—(1) No person shall undertake an activity in wetlands or waters of the United States as described in paragraph (2) of this subsection unless such activity is undertaken pursuant to a permit issued by the Secretary or is otherwise authorized under this section.

"(2) For purposes of this section an 'activity in wetlands or waters of the United States' means:

"(A) the discharge of dredged or fill material into waters of the United States including wetlands at a specific disposal site;

"(B) the draining or excavation of wetlands; and

"(C) the burning of vegetation at a specific site on wetlands for the purpose of altering the biological character of such wetlands.

"(3) For purposes of this section,

"(A) 'wetlands' means those lands that meet the criteria for delineation of lands as wetlands set forth in paragraph (2) of subsection (g);

"(B) 'Secretary' means the Secretary of the Army; and

"(C) 'Director' means Director of the United States Fish and Wildlife Service.

"(b) Authorized Activities.—(1) The Secretary is authorized to issue permits authorizing activities prohibited under subsection (a) of this section in accordance with the requirements of this section.

"(2) Activities described in paragraph (2) of subsection (a) may be undertaken without prior authorization of the Secretary if those activities are authorized under subsection (e)(5) or (6) or are exempt from the requirements of this section under subsection (f) or other provisions of this section.

"(c) Wetlands Classification.—(1) Any person seeking to undertake activities in wetlands for which authorization is required under subsection (b) shall make application to the Secretary identifying the site of such activity and requesting that the Secretary determine, in accordance with paragraph (3) of this subsection, the classification of the wetlands in which such activity is proposed to occur. The applicant may also provide such additional information regarding such proposed activity as may be necessary or appropriate for purposes of determining whether and under what conditions the proposed activity may be permitted to occur.

"(2) Within thirty days following the receipt of an application under paragraph (1), the Secretary shall provide notice to the applicant of the classification of the wetlands that are the subject of such application. If such wetlands are subject to an advance classification under paragraph (h), the Secretary shall advise the applicant of such advance classification and provide an opportunity for modification of such classification under paragraph (4) of this subsection. If such wetlands are not subject to an advance classification under paragraph (h), the classification of the wetlands that are the subject of the application shall be determined by the Secretary in accordance with the requirements for classification of wetlands under paragraph (3).

"(3) Upon application under this subsection, the Secretary shall—

"(A) classify as Type A wetlands those wetlands that are of critical significance to the long-term conservation of the ecosystem of which such wetlands are a part and which meet the following requirements:

"(i) such wetlands serve critical wetlands functions, including the provision of critical habitat for a substantial concentration of avian, aquatic, or terrestrial wildlife species;

"(ii) such wetlands consist of ten or more contiguous acres and have an inlet or outlet for relief of water flow: *Provided*, That this requirement shall not operate to preclude the classification as Type A wetlands lands containing prairie pothole features, if such lands otherwise meet the requirements for Type A classification under this paragraph;

"(iii) such wetlands may not be altered or disturbed without an unacceptable loss of wetlands functions and values;

"(iv) there exists a scarcity within the watershed or aquatic ecosystem of identified ecological functions served by such wetlands such that the use of such wetlands for activities described in subsection (a) would seriously jeopardize the availability of these identified wetlands functions;

"(v) there is no overriding public interest in the use of such wetlands for purposes other than conservation; and

"(vi) the nature and scope of wetlands functions are such that minimization and compensation are not feasible means for conserving wetlands values and functions;

"(B) classify as Type B wetlands those wetlands that provide habitat for a significant population of avian, aquatic or terrestrial wildlife, or provide other ecologically significant wetlands functions including significant enhancement or protection of water quality, significant natural flood control, significant recharging of aquifers or significant accumulation of discharge sediment; and

"(C) classify as Type C wetlands all wetlands that—

"(i) serve limited or de minimus wetlands ecological functions; or

"(ii) serve some wetlands ecological functions but which exist in such abundance that regulation of activities in such wetlands is not necessary for conserving important wetlands values and functions.

Type C wetlands may include, but are not limited to, isolated wetlands and wetlands located in industrial complexes or other intensely developed areas that do not serve ecologically significant wetlands functions as a result of such location.

"(4)(A) In the case of an application to undertake activities in wetlands that are the subject of an advance classification as Type A, B or C wetlands pursuant to subsection (h), the Secretary shall, within thirty days of receipt of an application under this subsection, notify the applicant of such advance classification and advise the applicant of his right to seek a modification of such classification pursuant to this paragraph.

"(B) Within thirty days of receipt of notice by the Secretary under subparagraph (A) of this paragraph, an applicant may request the Secretary to make a de novo determination of the classification of wetlands that are the subject of such notice. Such de novo determination shall be made by the Secretary in consultation with the Director. The Secretary may modify an advance classification made by the Director if he determines, upon examination of all relevant information submitted by the applicant or otherwise available to the Secretary (including, if appropriate, an on-the-ground-examination), that—

"(i) the lands involved do not meet the standards and criteria for delineating wetlands set forth in paragraph (2) of subsection (g);

"(ii) the weight of relevant information does not support the application of the advance classification to the specific wetlands involved; or

"(iii) the factual basis for such advance classification is no longer valid: *Provided, however,* That such change in factual circumstances has not been caused by activities undertaken without authorization by the Secretary as may have been required under this section.

"(d) COMPENSATION FOR LANDOWNERS.—(1) Any person (including a State or political subdivision thereof) who owns an interest in lands that have been classified as Type A wetlands by the Secretary under subsection (c) or by the Director under subsection (h) may, within thirty days of receipt of actual notice of such classification (or within thirty days following a de novo determination of such classification), notify the Secretary and the Director that he is electing to seek compensation for the fair market value of such interests in lands, in accordance with the requirements of this section. Fair market value may include reasonable attorneys fees and shall be calculated without regard to any diminution in values resulting from the applicability of this section.

"(2) Immediately upon receipt by the Secretary and the Director of notification of election to seek compensation under paragraph (1), the Director shall enter into good faith negotiations with the owner for purposes of determining the value of the interests in lands that have been classified as Type A wetlands. Within three months after receipt of the notice of election by the landowner under paragraph (1), the Director shall make an offer of reasonable compensation to the owner.

"(3) Within one year of the date an offer for compensation is made under paragraph (2), the owner shall, in his discretion—

"(A) accept such offer of compensation;

"(B) file a claim for determination of value of compensation with the United States Claims Court; or

"(C) advise the Director and the Secretary that he elects not to receive compensation for the taking of land under this subsection. Failure to provide notice in accordance with this paragraph shall be deemed an election not to receive compensation under this subsection.

"(4) Upon acceptance of an offer for compensation or the filing of a claim for compensation under paragraph (3), the classification as Type A wetlands of the wetlands that are the subject of such offer or claim shall be binding upon the owner and any successor in interest, and the title to such lands shall pass to the United States. The classification of such lands as Type A wetlands under this paragraph shall constitute a taking by the United States of the owner's interests in such lands and shall be compensable under the provisions of this subsection.

"(5) A taking under this subsection shall be deemed to be a taking of surface interests in lands only, *Provided, however,* That if the Secretary determines that the exploration for or development of oil and gas or mineral interests is not compatible with conservation of the surface interests in lands that have been classified as Type A wetlands located above or adjacent to such oil and gas or mineral interests, the Secretary may classify such oil and gas or mineral interests as Type A wetlands and notify the owner of such interests that he may elect to receive compensation for such interests under paragraph (a), and *Provided, further,* That the failure to provide reasonable access to oil and gas or mineral interests located beneath or adjacent to surface interests of Type A wetlands shall be deemed a taking of such oil and gas or mineral interests.

"(6) The United States Claims Court shall have jurisdiction—

"(A) to determine the value of interests taken and the fair compensation required under this subsection and the Constitution of the United States;

"(B) in case of oil and gas or mineral interests, to require the United States to provide reasonable access in, across or through lands that may be the subject of a taking under this subsection, solely for the purpose of undertaking exploration activity necessary to determine the value of the interests taken; and

"(C) to provide other equitable remedies deemed appropriate.

"(7) Any judgment rendered under subsection (6) may be executed, at the election of the landowner, no later than two years after the date such judgment is rendered. The landowner may, prior to the execution of such judgment, enter into an agreement with the United States for satisfaction of such judgment through a crediting of tax benefits, acquisition of interests in oil, gas or minerals, an exchange of interests in lands with the United States or other means of compensation.

"(8) The remedies for taking of interests in lands under this subsection shall not be construed to preempt, alter or limit the availability of other remedies for the taking of interests in lands under the Constitution of the United States or State law.

"(9) Interests in lands acquired by the United States under this subsection shall be managed by the United States Fish and Wildlife Service as a part of the National Wildlife Refuge System unless otherwise provided by the Director or by Act of Congress.

"(10) No action taken pursuant to this subsection shall constitute a taking of rights to the use of water and in no event shall regulatory action under this provision be construed to alter or supersede requirements governing use of water applicable under local law.

"(e) REQUIREMENTS APPLICABLE TO PERMITTED ACTIVITY.—(1) IN GENERAL.—Following the determination of wetlands classification pursuant to subsection (c), and after compliance with the requirements of subsection (d) if applicable, the Secretary may issue or deny permits for authorization to undertake activities in wetlands, in accordance with the requirements of this subsection.

"(2) TYPE A WETLANDS.—The Secretary shall deny a permit authorizing activities in Type A wetlands unless he determines that—

"(A) such an activity can be undertaken with de minimus alteration or surface disturbance;

"(B) there are overriding public interest concerns that require use of the lands for purposes other than conservation, including but not limited to:

"(i) the likelihood that efforts to mitigate adverse impacts through avoidance and minimization will protect critical wetlands values and functions; or

"(ii) the lack of practical and feasible means for accomplishing the project purpose at an alternative location; or

"(C) the proposed use of the land, taking into account all proposed mitigation, will result in overall environmental benefits including, but not limited to, the prevention of coastal erosion.

Any permit issued authorizing activities in Type A wetlands may contain such terms and conditions concerning mitigation (including but not limited to those applicable under paragraph (3) for Type B wetlands) that the Secretary deems appropriate to prevent the unacceptable loss or degradation of Type A wetlands.

"(3) TYPE B WETLANDS.—(A) The Secretary may issue a permit authorizing activities in Type B wetlands subject to such terms and conditions, if any, as he finds are necessary to ensure that the watershed or aquatic ecosystem of which such wetlands are a part does not suffer an unacceptable loss or degradation of wetlands values and functions. In determining whether or not specific terms and conditions are necessary to avoid an unacceptable loss of wetlands values and functions, consideration should be given to—

"(i) the quality and quantity of ecologically significant functions served by the areas to be affected;

"(ii) the opportunities to reduce impacts through cost effective design to avoid or minimize use of wetlands areas;

"(iii) the costs of mitigation requirements and the social, economic and other environmental or recreational benefits associated with the proposed activity;

"(iv) the availability of compensation, measured by acre or function, to reduce the overall loss or degradation of wetlands values and functions; and

"(v) the benefit, measured by acre or function, that may occur through mitigation efforts including restoring, preserving, enhancing or creating wetlands values and functions.

"(B) In considering an application for activities on Type B wetlands, the Secretary may require alternative site analyses for individual permit applications involving the alteration or permanent surface disturbance of ten or more contiguous acres of wetlands, *Provided, however,* That there shall be a rebuttable presumption that the project purpose as defined by the applicant shall be binding upon the Secretary, and *Provided, further,* That the definition of project purpose for projects sponsored by public agencies shall be binding upon the Secretary, subject to the authority of the Secretary to impose mitigation requirements to minimize impacts on wetlands values and functions, including cost effective redesign of projects to avoid wetlands areas.

"(C) Except as otherwise provided in this section, requirements for mitigation shall be imposed when the Secretary finds that activities undertaken under this section will result in the permanent loss or degradation of Type B wetlands. When determining mitigation requirements in any specific case, the Secretary shall take into consideration the type of wetlands affected, the character of the impact on ecological functions, whether any adverse effects on wetlands are of a permanent or temporary nature, and the reasonable cost of such mitigation.

"(D) In accordance with subsection (i), the Secretary shall issue rules governing requirements for mitigation for activities occurring in Type B wetlands that allow for—

"(i) minimization of impacts through project design, including avoidance of specific wetlands impacts where economically practicable and consistent with the project's purpose, provisions for compensatory mitigation, if any, and the public interest;

"(ii) preservation or donation of Type A or higher value Type B wetlands as mitigation for activities that alter or degrade such wetlands;

"(iii) the enhancement or restoration of degraded wetlands as compensation for wetlands lost or degraded through permitted activity;

"(iv) compensation through contribution to a mitigation banking program established for a State pursuant to subparagraph (F);

"(v) offsite compensatory mitigation, if such mitigation contributes to the restoration, enhancement or creation of significant wetlands values on an ecosystem basis;

"(vi) the contribution of in-kind value acceptable to the Secretary and otherwise authorized by law;

"(vii) in areas subject to coastal erosion, the construction of coastal protection and enhancement projects; or

"(viii) other mitigation measures determined by the Secretary to be appropriate in the public interest and consistent with the requirements and purposes of this Act.

"(E) Notwithstanding the provisions of subparagraph (C), the Secretary may determine not to impose requirements for compensatory mitigation if he finds that—

"(i) the adverse impacts of a permitted activity are de minimus;

"(ii) the failure to impose compensatory mitigation requirements is compatible with maintaining wetlands functions and values and no practicable and reasonable means of mitigation is available;

"(iii) there is an abundance of similar significant wetlands functions and values in or near the area in which the proposed activity is to occur that will continue to serve the functions lost or degraded as a result of such activity, taking into account the specific effect of such proposed activity and the cumulative effects of similar activity in the area;

"(iv) the Secretary determines that the temporary character of the impacts and the use of minimization techniques make compensation unnecessary to protect ecologically significant wetlands values; or

"(v) a waiver from requirements for compensatory mitigation is necessary to prevent special hardship.

"(F) Mitigation Banking.—The Secretary, in consultation with the Director, shall establish a mitigation banking program in each State which, after approval by the Secretary, will be available to the Secretary as a means for ensuring compensation for loss and degradation of wetlands functions and values in such State in accordance with the requirements of this paragraph. The primary objective of such programs shall be to provide for the restoration, enhancement, or, where feasible, creation of ecologically significant wetlands on an ecosystem basis. Such programs shall—

"(i) provide a preference for larger scale projects, unless the Secretary determines that a smaller project will contribute substantially to the conservation, enhancement or restoration of ecologically significant wetlands values and functions;

"(ii) authorize mitigation banks sponsored either by private entities or public entities;

"(iii) provide models for crediting of contributions to the bank in land, cash or in-kind contributions, so that persons unable to sponsor specific banking projects can contribute to a State or privately maintained bank;

"(iv) have sufficient requirements to ensure effective maintenance and supervision for at least a twenty-five-year period;

"(v) authorize the imposition of bonding requirements on private entities operating such banks;

"(vi) limit activities in banked wetlands to recreational or ecological activities, unless the Secretary or State finds that other uses are consistent with maintaining or gaining ecologically significant wetlands values and functions; and

"(vii) authorize a credit to be provided on an acre-for-acre or value-for-value basis for Type A and B wetlands that are permanently protected in national conservation units, in States that have used less than 25 per centum of their State's wetlands for development purposes.

"(4)(A) In the case of any application for authorization to undertake activities in wetlands that are not eligible for treatment on an expedited basis pursuant to paragraph (5) of this section, final action by the Secretary shall occur within six months following the date such application is filed, unless—

"(i) the Secretary and the applicant agree that such final action shall occur within a shorter or longer period of time;

"(ii) the Secretary determines that an additional, specified period of time is necessary to permit the Secretary to comply with other applicable Federal law; or

"(iii) the Secretary, within thirty days from the date such application is received, notifies the applicant that such application does not contain all information reasonably necessary to allow the Secretary to consider such application, in which case, the provisions of subparagraph (B) shall apply.

"(B) Upon the receipt of a request for additional information under paragraph (A)(iii), the applicant shall supply any reasonably necessary additional information and shall advise the Secretary that the applicant believes that the application contains all reasonably necessary information and is therefore complete. The Secretary may, in his discretion—

"(i) within thirty days of the receipt of notice of the applicant that the application is complete, determine that the application does not contain all reasonably necessary additional information and, on that basis, deny the application without prejudice to resubmission; or

"(ii) review the application and take final action within six months from the date that the applicant provides notification to the Secretary that its application is complete.

"(5) TYPE C WETLANDS.—(A) Activities in wetlands that have been classified as Type C wetlands by the Secretary or the Director may be undertaken without authorization pursuant to subsection (b) of this section.

"(B) The Secretary shall, by rule in accordance with subsection (i), authorize a person to undertake activities in wetlands that have not been classified as Type C wetlands if such person certifies to the Secretary that he in good faith believes that such lands meet the requirements for classification as Type C wetlands as set forth in subsection (c)(3)(C). The Secretary may establish requirements for reporting activities undertaken in Type C wetlands without prior classification.

"(C) No requirements for alternative site analyses or mitigation of environmental impacts shall apply for activities undertaken in Type C wetlands.

"(6) The Secretary may, by rule in accordance with subsection (i), issue general permits on a state, regional or nationwide basis for any category of activities involving activities described in section (a) of this section in Type B wetlands, if the Secretary determines that such activities are similar in nature and that such activities, when performed separately and cumulatively, will not result in the significant loss of ecologically significant wetlands values and functions Permits issued under this section shall include procedures for expedited review of eligibility for such permits (if such review is required) and may include requirements for reporting and mitigation. Requirements for compensatory mitigation for such permits should be imposed only to the extent necessary to avoid permanent loss or degradation of ecologically significant wetlands values and functions. Nationwide, general or regional permits in effect on the date of enactment of this Act shall remain in effect under authority of this paragraph.

"(f) ACTIVITIES NOT REQUIRING PERMIT.—(1) Except as provided in paragraph (3) of this subsection, activities undertaken in wetlands are exempt from the requirements of this section and are not prohibited by or otherwise subject to regulation under this section or section 1311(a) or 1342 of title 33 of the United States Code (except effluent standards or prohibitions under section 1317 of such title), where such activities—

"(A) result from normal farming, silviculture, and ranching activities such as plowing, seeding, cultivating, minor drainage, burning of vegetation in connection with such activities, harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices;

"(B) are for the purpose of maintenance, including emergency reconstruction of recently damaged parts of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, and bridge abutments or approaches, and transportation structures;

"(C) are for the purpose of construction or maintenance of farm or stock ponds or irrigation ditches, or the maintenance of drainage ditches;

"(D) are for the purpose of construction of temporary sedimentation basins on a construction site which does not include placement of fill material into the navigable waters;

"(E) are for the purpose of construction or maintenance of farm roads or forest roads, or temporary roads for moving mining equipment, where such roads are constructed and maintained, in accordance with best management practices, to assure that flow and circulation patterns and chemical and biological characteristics of the navigable waters are not impaired, that the reach of the navigable waters is not reduced, and that any adverse effect on the aquatic environment will be otherwise minimized;

"(F) are undertaken on farmed wetlands, *Provided*, That, any change in use of such land for the purpose of undertaking activities that are not exempt from regulation under this subsection shall be subject to the requirements of this section to the extent that such farmed wetlands are 'wetlands' under paragraph (2) of subsection (g);

"(G) result from any activity with respect to which a State has an approved program under section 1288(b)(4) of this title which meets the requirements of subparagraphs (B) and (C) of such section; and

"(H) are consistent with a State or local land management plan submitted to the Secretary and approved pursuant to paragraph (2).

"(2) Any State or political subdivision thereof acting pursuant to an express State authorization may develop a land management plan with respect to lands that include identified wetlands. The State or local government agency may submit any such plan to the Secretary for review and approval by the Secretary. The Secretary shall, within sixty days, notify in writing the designated State or local official of approval or disapproval of any such plan. The Secretary shall approve any plan that is consistent with the objectives and policies of this section. No party shall be entitled to judicial review of the Secretary to approve or disapprove a land management plan under this paragraph. Nothing in this paragraph shall be construed to alter, limit or supersede the authority of a State or political subdivision thereof to establish land management plans for purposes other than the provisions of this subsection.

"(3) Any discharge of dredged or fill material into the navigable waters incidental to any activity having as its purpose bringing an area of the navigable waters into a use to which it was not previously subject, where the flow or circulation of navigable waters may be impaired or the reach of such waters be reduced, shall require a permit under this section.

"(g) Rules for Delineating Wetlands.—(1) The Secretary is authorized and directed to establish standards, by rule in accordance with subsection (i), that shall govern the delineation of lands as "wetlands" for purposes of this section. Such rules may be established after consultation with other agencies of the United States, including the United States Fish and Wildlife Service, the Environmental Protection Agency and the United States Soil Conservation Service, and shall be binding on all Federal agencies in connection with the administration or implementation of any provision of this section. The standards for delineation of wetlands, and any decision of the Secretary, the Director or other Federal agency made in connection with the administration of this section, shall comply with the requirements for delineation of wetlands set forth in paragraph (2) of this section.

"(2)(A) The standards established by rule or applied in any case for purposes of this section shall ensure that lands are delineated as wetlands only if such lands are found to be "wetlands" under section 502 of this title (33 U.S.C. 1362(21): *Provided, however,* That such standards may not—

"(i) result in the delineation of lands as wetlands unless clear evidence of wetlands hydrology, hydrophytic vegetation and hydric soil are found to be present during the period in which such delineation is made;

"(ii) result in the classification of vegetation as hydrophytic if such vegetation is more typically adapted to dry soil conditions than to wet soil conditions;

"(iii) result in the classification of lands as wetlands unless some obligate wetlands vegetation is found to be present during the period of delineation;

"(iv) result in the conclusion that wetlands hydrology is present unless water is found to be present at the surface for at least twenty-one days during the growing season in which such delineation is made and for twenty-one days in the growing seasons in a majority of the years for which records are available; and

"(v) result in the classification of lands as wetlands that are temporarily or unintentionally created as a result of adjacent development activity.

"(B) In addition to the requirements of subparagraph (A), any standards established by rule or applied to delineate wetlands for purposes of this section shall provide that—

"(i) 'normal circumstances' shall be determined on the basis of the factual circumstances in existence at the time a classification is made under subsection (h) or at the time of application under subsection (e), whichever is applicable; and,

"(ii) where the Secretary, in delineating lands as wetlands, finds only limited evidence that one or more of the wetlands characteristics described in subparagraph (A)(i) of this paragraph is present during the period of delineation, the Secretary shall determine that such lands are not wetlands for purposes of this section, unless he finds that such wetlands, at the time of such delineation, are serving significant ecological functions typically associated with wetlands, including the provision of significant wildlife habitat, protection of water quality, flood control, recharging of aquifers, and accumulation of sediment.

"(h) UNITED STATES FISH AND WILDLIFE SERVICE WETLANDS IDENTIFICATION AND CLASSIFICATION PROJECT.—(1) IN GENERAL.—The Director, in concurrence with the Chief of the Soil Conservation Service, shall undertake a project to identify and classify wetlands in the United States. The Director shall complete such project not later than ten years after the date of enactment of this Act.

"(2) USE OF STANDARDS DEVELOPED BY THE SECRETARY.—In conducting the project under this section, the Director shall identify and classify wetlands in accordance with standards for delineation of wetlands established by the Secretary under subsection (g) of this section.

"(3) PUBLIC PARTICIPATION.—In conducting the project under this section, the Director shall provide notice and an opportunity for a public hearing in each county, parish or borough of a State before completion of identification and classification of wetlands in such county, parish or borough.

"(4) PUBLIC RECORDS.—Promptly after completion of identification and classification of wetlands in a county, parish or borough under this section, the Director shall publish information on such identification and classification in the Federal Register and in publications of wide circulation and take other steps reasonably necessary to ensure that such information is available to the public.

"(5) REPORT TO CONGRESS.—The Director shall report to Congress on implementation of the project to be conducted under this section not later than two years after the date of the enactment of this Act and annually thereafter.

"(6) Any classification of lands as wetlands under this section shall, to the fullest extent practicable, be recorded on the property records in the county, parish or borough in which such wetlands are located.

"(i) ADMINISTRATIVE PROVISIONS.—(1) Not later than one year after the date of enactment of this section, the Secretary shall, after notice and opportunity for comment, adopt final rules and regulations for the issuance of permits and as otherwise required under this section. Such rules and regulations shall, in accordance with this section, provide—

"(A) standards and procedures for the classification and delineation of wetlands and procedures for administrative review of any such classification or delineation;

"(B) standards and procedures for the review of State or local land management plans and State programs for the regulation of wetlands;

"(C) for the issuance of general, nationwide or regional permits;

"(D) standards and procedures for the individual permit applications under this section;

"(E) for enforcement of this section; and,

"(F) any other rules and regulations as the Secretary deems necessary or appropriate to implement the requirements of this section.

"(2) Any judicial review of final regulations promulgated pursuant to this section and the Secretary's denial of any petition for the promulgation, amendment, or repeal of any regulation under this section shall be in accordance with sections 701 through 706 of title 5 of the United States Code, except that a petition for review of action of the Secretary in promulgating any regulation, or requirement under this section or denying any petition for the promulgation, amendment, or repeal of any regulation under this section may be filed only in the United States Court of Appeals for the District of Columbia, and such petition shall be filed within ninety days from the date of such promulgation or denial or after such date if such petition for review is based solely on grounds arising after such ninetieth day. Action of the Secretary with respect to which review could have been obtained under this subsection shall not be subject to judicial review in civil or criminal proceedings for enforcement.

"(3) The Secretary shall, within ninety days of the enactment of this section, promulgate interim rules and regulations consistent with this section to take effect immediately. Notice of the interim regulations shall be published in the Federal Register, and such regulations shall be binding until the issuance of final regulations pursuant to paragraph (1): *Provided*, That, the Secretary shall provide adequate procedures for waiver of any provisions of such interim regulations to avoid special hardship, inequity, or unfair distribution of burdens, or to advance the purposes of this Act.

"(4) Except where otherwise expressly provided in this section, the Secretary shall administer this Act. The Secretary or any other Federal officer or agency in which any function under this Act is vested or delegated is authorized to perform any and all acts (including appropriate enforcement activity), and to prescribe, issue, amend or rescind such rules or orders as it may find necessary or appropriate with this Act, subject to the requirements of this subsection.

"(j) PERMIT VIOLATIONS.—(1) IN GENERAL.—Whenever, on the basis of reliable and substantial information and after reasonable inquiry, the Secretary finds that any person is or may be in violation of this section or of any condition or limitation, set forth in a permit issued by the Secretary under this section, the Secretary shall issue an order requiring such persons to comply with this section or with such condition or limitation, or the Secretary shall bring a civil action in accordance with paragraph (3).

"(2) ISSUANCE OF ORDERS.—A copy of any order issued under this subsection shall be sent immediately by the Secretary to the State in which the violation occurs and other affected States. Any order issued under this subsection shall be by personal service to the appropriate person or corporate officer and shall state with reasonable specificity the nature of the asserted violation, specify a time for compliance, not to exceed thirty days, which the Secretary determines is reasonable, taking into account the seriousness of the asserted violation and any good faith efforts to comply with applicable requirements: *Provided, however,* That if the person receiving notice of the asserted violation disputes the Secretary's determination and so notifies the Secretary in writing, the Secretary shall within sixty days after serving notice, unless otherwise agreed to by the parties, prosecute a civil action in accordance with paragraph (3) or rescind such order and be estopped from any further enforcement proceedings for the same asserted violation.

"(3) CIVIL ACTIONS.—The Secretary is authorized to commence a civil action for appropriate relief, including a permanent or temporary injunction for any violation for which he is authorized to issue a compliance order under paragraph (1) of this subsection. Any action under this paragraph may be brought in the district court of the United States for the district in which the defendant is located or resides or is doing business, and such court shall have jurisdiction to restrain such violation and to require compliance. Notice of the commencement of such action shall be given immediately to the appropriate State.

"(4) CIVIL PENALTIES.—Any person who violates any condition or limitation in a permit issued by the Secretary under this section, and any person who violates any order issued by the Secretary under paragraph (1) of this subsection, shall be subject to a civil penalty not to exceed $25,000 per day for each violation. In determining the amount of a civil penalty the court shall consider the seriousness of the violation or violations, the economic benefit (if any) resulting from the violation, any history of such violations, any good-faith efforts to comply with the applicable requirements, the economic impact of the penalty on the violator, and such other matters as justice may require.

"(k) DISCHARGES RESULTING FROM CONSTRUCTION OF FEDERAL PROJECTS.—The discharge of dredged or fill material and other activities in wetlands described in subsection (a) undertaken as part of the construction of a Federal project specifically authorized by Congress, whether prior to or on or after the date of enactment of this section, is not prohibited by or otherwise subject to regulation under this section, or a State program approved under this section, or section 301(a) or 402 of the Act (except for effluent standards or prohibitions under section 307), if information on the effects of such discharge, including consideration of the rules applicable pursuant to subsection (e)(1) of this section, is included in an environmental impact statement for such project pursuant to the National Environmental Policy Act of 1969 and such environmental impact statement has been submitted to Congress before the actual discharge of dredged or fill material or other activity in connection with the construction of such project and prior to either authorization of such project or an appropriation of funds for each construction.

"(l) STATE AUTHORITY TO CONTROL DISCHARGES.—Nothing in the section shall preclude or deny the right of any State or interstate agency to control the discharge of dredged or fill material in any portion of the navigable waters within the jurisdiction of such State, including any activity of any Federal agency, and each such agency shall comply with such State or interstate requirements both substantive and procedural to control the discharge of dredged or fill material to the same extent that any person is subject to such requirements. This section shall not be construed as affecting or impairing the authority of the Secretary to maintain navigation.

"(m) STATE REGULATION OF WETLANDS.—IN GENERAL.—The Governor of any State desiring to administer its own individual and general permit program for activities covered by this Act within its jurisdiction may submit to the Secretary a description of the program it proposes to establish and administer under State law or under an interstate compact. In addition, such State shall submit a statement from the chief legal officer in the case of the State or interstate agency, that the laws of such State, or the interstate compact, as the case may be, provide adequate authority to carry out the described program.

"(2) REQUIRED STATE AUTHORITY.—Not later than the one hundred and twentieth day after the date of the receipt by the Secretary of a program and statement submitted by any State under paragraph (1), the Secretary shall determine whether such State has the following authority with respect to the issuance of permits pursuant to such program:

"(A) to issue permits which—

"(i) apply, and assure compliance with, any applicable requirements of this Act; and

"(ii) can be terminated or modified for cause, including—

"(I) violation of any condition of the permit;

"(II) obtaining a permit by misrepresentation, or failure to disclose fully all relevant facts; or

"(III) change in any condition that requires either a temporary or permanent reduction or elimination of the permitted activity;

"(B) to issue permits which apply, and ensure compliance with, all applicable requirements of section 308 of this Act, or to inspect, monitor, enter, and require reports to at least the same extent as required in section 308 of this Act;

"(C) to ensure that the public, and any other State the waters of which may be affected, receive notice of each application for a permit and to provide an opportunity for public hearing before a ruling on each such application;

"(D) to ensure that the Secretary receives notice of each application for a permit and that, prior to any action by the State, both the applicant for the permit and the State have received from the Secretary a determination of the type -of wetlands that may be affected;

"(E) to ensure that any State (other than the permitting State), whose waters may be affected by the issuance of a permit may submit written recommendation to the permitting State with respect to any permit application and, if any part of such written recommendations are not accepted by the permitting State, that the permitting State will notify such affected State (and the Secretary) in writing of its failure to so accept such recommendations together with its reasons for doing so; and,

"(F) to abate violations of the permit or the permit program, including civil and criminal penalties and other ways and means of enforcement;

"(3) APPROVAL.—If, with respect to a State program submitted under paragraph (1) of this section, the Secretary determines that such State—

"(A) has the authority set forth in paragraph (2), the Secretary shall approve the program and so notify such State and suspend the issuance of permits under subsection (b) for activities with respect to which a permit may be issued pursuant to such State program; or

"(B) does not have the authority set forth in paragraph (2) of this subsection, the Secretary shall so notify such State and provide a description of the revisions or modifications necessary so that such State may resubmit such program for a determination by the Secretary under this subsection.

"(4) FAILURE TO MAKE TIMELY DETERMINATION.—If the Secretary fails to make a determination with respect to any program submitted by a State under this subsection within 120 days after the date of receipt of such program, such program shall be deemed approved pursuant to paragraph (3)(A) and the Secretary shall so notify such State and suspend the issuance of permits under subsection (b) for activities with respect to which a permit may be issued by such State.

"(5) TRANSFER OF PENDING APPLICATIONS.—After the Secretary approves a State permit program under paragraphs (3)(A) or (4), the Secretary shall transfer any applications for permits pending before the Secretary for activities with respect to which a permit may be issued pursuant to such State program to such State for appropriate action.

"(6) STATE ADMINISTRATION OF ACTIVITIES UNDER GENERAL PERMITS.—Upon notification from a State with a permit program approved under this subsection that such State intends to administer and enforce the terms and conditions of a general permit issued by the Secretary under subsection (e) with respect to activities in such State to which such general permit applies, the Secretary shall suspend the administration and enforcement of such general permit with respect to such activities.

"(7) WITHDRAWAL OF PROGRAM APPROVAL.—Whenever the Secretary determines after public hearing that a State is not administering a program approved under paragraph (3)(A), in accordance with this section, the Secretary shall notify the State, and, if appropriate corrective action is not taken within a reasonable time, not to exceed ninety days after the date of the receipt of such notification, the Secretary shall—

"(A) withdraw approval of such program until the Secretary determines such corrective action has been taken; and

"(B) resume the program for the issuance of permits under subsections (b) and (e) for activities with respect to which the State was issuing permits until such time as the Secretary makes the determination described in paragraph (2) and such State again has an approved program.

"(n) PUBLIC AVAILABILITY OF PERMIT APPLICATIONS.—A copy of each permit application and each permit issued under this section shall be available to the public. Such permit application or portion thereof shall further be available on request for the purpose of reproduction.

"(o) EFFECT OF COMPLIANCE WITH PERMIT.—Compliance with a permit issued pursuant to this section, including any activity carried out pursuant to a general permit issued under this section, shall be deemed in compliance, for purposes of sections 309 and 505, with sections 301, 307, and 403.

"(p) After the effective date of this section under section 6 of the Wetlands Conservation and Management Act of 1990, no permit for any activity described in subsection (a) may be issued except in accordance with this section. Any permit for an activity described in subsection (a) issued under this section prior to such effective date shall be deemed to be a permit under this section and shall continue in force and effect for the term of the permit unless revoked, modified, or suspended in accordance with this section. Any application for a permit for such an activity pending under 33 U.S.C.

1344 et seq. on such effective date shall be deemed to be an application for a permit under this section."

SEC. 4. DEFINITIONS.

(a) Section 502 of the Federal Water Pollution Control Act (33 U.S.C. 1362) is amended by adding at the end thereof the following new subsection:

"(21) WETLANDS.—The term 'wetlands' means lands which have a predominance of hydric soils and which are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."; and

(b) For purposes of this Act, "normal farming activities" means those normal ongoing practices identified as such by the Cooperative Extension Service for each State, in consultation with the land grant university system and agricultural colleges of the State, taking into account existing practices and such other practices as may be identified in consultation with the affected industry or community.

SEC. 5. TECHNICAL AND CONFORMING AMENDMENTS.

Section 309 of the Federal Water Pollution Control Act (33 U.S.C. 1319) is hereby amended—

(a) by striking out "or 1344" in section 309(a)(1);

(b) by striking out "or in a permit issued under section 1344 of this title by a State" in section 309(a)(3);

(c) by striking out "or in a permit issued under section 1344 of this title by a State," in section 309(d);

(d) by striking out "—(A)" and "or in a permit issued under section 1344 of this title by a State, or" in section 309(g)(1)(A);

(e) by striking out "(B)" through "as the case may be," and insert in lieu thereof "the Administrator" in section 309(g)(1); and

(f) the words "or Secretary", "or the Secretary", "or the Secretary, as the case may be," "or Secretary's", "and the Secretary" are deleted wherever they occur in section 309. A permit for activities in Type A wetlands may be denied if the Secretary determines that there is no overriding public need for the proposed activity.

SEC. 6. EFFECTIVE DATE.

This Act shall be effective on the ninetieth day following the date of enactment.

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[Reprinted from the Congressional Record, January 17, 1991

WETLANDS REGULATION

The SPEAKER pro tempore (Mr. MFUME). Under a previous order of the House, the gentleman from New York [Mr. LAFALCE] is recognized for 5 minutes.

Mr. LAFALCE. Mr. Speaker, I rise today to discuss the regulation of our Nation's wetlands, an issue that is of vital importance to western New York and, indeed, to much of the country.

The preservation of true wetlands is an important environmental objective. Wetlands not only provide a habitat for birds, plants, fish, and shellfish; they can also play an equally important role in purifying our water and maintaining our planet's delicate ecological balance.

Since the first European settlements, the continental United States has lost a considerable portion of its natural wetlands. Fortunately, much has been done in the past 20 years to slow the loss of our wetlands.

But as important as preserving our wetlands is, it is also important that we achieve President Bush's goal of a "no net loss" of wetlands by efficient and rational regulatory means. Inappropriate and arbitrary restrictions on land development can cause personal and economic hardships and overlapping regulatory authority can create confusion and unnecessary delays.

It is important, at the outset, to recognize the great complexity of this issue. All regions and areas of the United States have valuable wetlands, but the circumstances and needs in each region and area may vary significantly. A definition of wetlands which might be appropriate to the bayous of Louisiana may or may not be appropriate to land in western New York. Similarly, policies which might be entirely appropriate in Florida's swampland might or might not be appropriate to the bogs on Cape Cod.

During the recent congressional recess, I discussed wetlands regulations with a large number of my western New York constituents. They represented a wide range of interests. Some were homeowners, some were farmers, some were developers, and some were small businessmen. Many were concerned about lengthy delays in getting regulatory approval. Some objected to the retroactive application of new regulations. Others complained about confusing and contradictory regulations. All, however, expressed a common concern: State and Federal wetlands regulations were causing personal hardship without necessarily advancing the goal of wetlands protection.

At the present time, responsibility for Federal regulations of wetlands is spread over a number of agencies, including the Environmental Protection Agency, the Fish and Wildlife Service, the Soil and Conservation Service and the Corps of Engineers. For nonagricultural lands, the principal source of Federal regulatory authority is section 404 of the Clean Water Act, which addresses the dredging and filling—but not draining—of wetlands. The Corps of Engineers has the primary responsibility for enforcement of section 404, but other agencies have a consultative role and EPA can veto proposed permits.

Over the years there have been five major concerns with reference to Federal wetlands regulation: First, the definition and delineation of wetlands; second, overlapping regulatory authority; third, regulatory delays in the issuing of permits; fourth, confusion over mitigation and enforcement procedures; and fifth, possible conflict with State regulation of wetlands. With respect to all five issues, concern is intensifying as the Bush administration steps up its wetlands enforcement in the implementation of its "no net loss" policy. All five issues, I believe, deserve closer scrutiny by this body and I would like to touch upon those briefly here today.

WETLANDS DELINEATION

For many years, Federal wetlands policy has suffered from conflicting regulatory definitions; the Clean Water Act does not expressly define wetlands and for many years each corps district office delineated wetlands on the basis of local environmental features and concerns. Two years ago, however, the corps, EPA, and other Federal agencies jointly developed a manual containing a single nationwide definition of wetlands that relies upon three technical determinants: vegetation, soil, and hydrology. The new definition of wetlands provides greater Federal uniformity, but the definition is too inflexible, too frequently an unreliable indicator; that is, some nonwetlands are often classified as wetlands, and fails to distinguish between vital wetlands and wetlands of minor or insignificant value to the environment. Perhaps this is because the manual was drafted without using required formal rulemaking proceedings, and, therefore, the new rules reflect a lack of adequate public input.

While the definition of wetlands is of the greatest concern, many people are also concerned that the Federal Government does not make an effort to comprehensively map or delineate wetlands; landowners are forced to rely upon private consultants, who vary greatly in knowledge and ability, in determining whether their land meets the Federal definition of wetlands.

REGULATORY OVERLAP

While Federal agencies have informally agreed upon a uniform definition of wetlands, the enforcement of wetlands law is still divided among several agencies. I know from talking to my constituents that some people are having to wait several weeks or months—after the corps has completed its assessment—for EPA's compliance review to be completed. In some instances, the corps must also consult with other Federal agencies, like the Fish and Wildlife Service, further adding to the potential for delay.

REGULATORY DELAYS

Regulatory overlap is not the only possible cause of delays in permitting. In recent months, the Corps of Engineers has accelerated its enforcement efforts of existing permitting requirements. This increase in regulatory enforcement, which comes in response to the President's "no net loss" policy objective, has had the effect of greatly increasing delays in issuing permits.

It's reported that the number of permits handled in Buffalo has increased by 87 percent in the past 5 years. Without adequate personnel to handle the increased volume, delays have increased dramatically. The phones are literally ringing off the hook. In an effort to make headway, the local office of the Corps of Engineers has resorted to not answering the phones on Tuesdays and Thursdays. Developers, as a result of the growing backlog, must now wait an average of 6 months to receive a permit.

CONFUSION OVER MITIGATION REQUIREMENTS

The Bush administration has publicly pledged to implement a "no net loss" policy for America's wetlands, but it has offered little guidance on how to make that goal a practical reality. A memorandum of agreement on mitigation has been issued that requires developers to mitigate unavoidable adverse project-related impacts, but little instruction has been provided as to how that requirement can be satisfied. And the mitigation requirement, while generally applicable, is especially burdensome in cases where the wetland has no discernible function or value.

CONFLICT WITH STATE REGULATIONS

Unreasonably strict and rigid State regulations are also adding to the public concern over wetlands regulations. In New York State, the Department of Environmental Conservation [DEC] has issued proposed regulations that would change the classification, mapping, and delineation of State wetlands. While New York State does not generally regulate parcels of land less than 12.4 acres in size, the changes could significantly expand and affect the acreage subject to State wetlands regulation.

Many of my constituents in western New York have expressed concern about having to deal with two regulatory authorities operating with different and changing sets of rules and procedures. The State's proposed definition of wetlands is similar to the Federal Government's new nationwide standard, but it is not identical. In some instances, landowners have secured all local and State permits for housing projects, obtained financing, and only then discovered that Federal corps permits are required under the new nationwide definition of wetlands.

THE NEED FOR CONGRESSIONAL OVERSIGHT

The recent and proposed changes in wetlands regulations affect a large number of Americans, but as chairman of the Small Business Committee, I am especially concerned about the possible impact upon small businesses. Regulatory burdens and delays can be exceedingly costly for small businessmen for whom time is often money.

As a strong environmentalist, I support the commitment to the preservation of our Nation's true wetlands, but existing regulations must and can be made more rational and reasonable without jeopardizing our commitment to wetlands preservation. We should do so.

The President's Domestic Council Task Force on Wetlands is reviewing existing policy. Committees of legislative jurisdiction on this issue in both the House and the Senate are contemplating hearings and possible legislation on this issue. Some bills have already been introduced. For example, I am working with our colleagues, Representative Hayes, Representative Tauzin, Representative Ridge, and others on new legislation that would, among other things, define geographic areas and types of activities subject to the new regulatory program, categorize wetlands according to their ecological significance, and place increased administrative responsibility with the U.S. Army Corps of Engineers. I also hope that State regulatory changes, such as those now proposed in New York, could be put on hold pending clarification of our Federal policy.

In the meantime, because of the importance of this issue to small business, I intend, as chairman of the Small Business Committee, to hold hearings on this subject here in Washington and in the field.

Amherst
INDUSTRIAL DEVELOPMENT AGENCY
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James J. Allen
Executive Director

DEC - 5 1990

November 30, 1990

The Honorable John J. LaFalce
111 West Huron Street
Room 1304
Buffalo, New York 14202

Re: Proposed Revisions to 6 NYCCR part 664: Freshwater wetlands mapping and classification regulations.

Dear Congressman LaFalce:

I am writing to express my concerns over proposed changes to the New York State Department of Environmental Conservation Freshwater Mapping and Classification Regulations.

There is no question that the preservation of valuable wetlands is an ecologically sound policy which is strongly endorsed by the Amherst IDA. However, it is our opinion that these revisions would create a significantly more burdensome regulatory process without providing any significant environmental benefit.

It is my understanding that the original intent of the wetlands legislation was for the states protection of its larger and most significant wetlands to the extent that protection is consistent with the general welfare and beneficial social, agricultural and economic development of the state. These proposed revisions clearly indicate otherwise.

Upon review of the information (or lack there of) contained in the Draft Environmental Impact prepared by the DEC, it appears as though the economic ramifications associated with this proposal are basically being ignored. In fact, many aspects of the proposed changes go beyond the statutory authority of the DEC and should be given serious consideration in the New York State Legislature.

These regulations only give more responsibilities to, and broaden the regulatory authority of an already over burdened, under staffed State Agency.

A workable definition of wetlands should make reference to the values it seeks to protect and not simply to the physical features of soils or vegetation. The concept of "no net loss" or "unusual local importance" is just not acceptable.

130 John Muir Drive
W. Amherst, NY 14228-1148
(716) 688-9000 Fax 688-0205

As you know, continued economic growth is essential for the vitality of New York State which is already at a competitive disadvantage with other states competing for the attraction and retention of light industrial and high tech companies. These proposed revisions, which could involve the remapping of existing wetland boundaries to include adjacent areas within 500 ft., will severely limit our efforts for controlled, sustained economic growth due to a lack of suitable land for development.

Again, protection of valuable wetlands is a commendable goal. The regulation of every tract of land that exhibits any potential wetlands characteristic, however, is extremely inefficient, administratively impossible, and will have dire economic consequences for New York State.

I feel that any proposed changes should be the responsibility of to the State Legislature in order to maintain the original intent of the Wetlands Legislation and take into consideration the rights of private property owners, whether they represent the business or residential community. Hence, your support is urgently needed to encourage members of the State Legislature to become involved in this critical endeavor. I would also appreciate receiving your thoughts on this subject at your earliest convenience.

Thank you for your time and consideration.

Sincerely,

JAMES J. ALLEN
EXECUTIVE DIRECTOR

JJA/jjm

TOWN OF CLARENCE
ONE TOWN PLACE - CLARENCE, NEW YORK 14031 - TEL. 716-741-2802

Irving W. Grenzebach Jr.
Supervisor

December 7, 1990

The Honorable John J. LaFalce
2367 Rayburn House Office Building
Washington, D. C. 20515

Dear Senator LaFalce:

The Clarence Town Board has adopted the Freshwater Wetlands Resolution at their last Town Board meeting that you will find enclosed.

We in Clarence are very concerned about the unfair burden this places on our Town and property owners of our Town.

Thank you very much for taking time to read this and thank you also for your support in this matter.

Sincerely,

Irving W. Grenzebach Jr.

IRVING W. GRENZEBACH, JR.
Supervisor
Town of Clarence

IWG:rh

Daniel A. Herberger
Deputy Supervisor and Councilman

Daniel M. Gregorio
Councilman

Roland L. Boller
Councilman

John F. Love
Councilman

DEC 10 1990

Town of Clarence

STATE OF NEW YORK
COUNTY OF ERIE } SS.
TOWN OF CLARENCE

I, Dorothy J. Harbison, Town Clerk of the Town of Clarence, Erie County, New York, do hereby certify that at an adjourned, regular, special meeting of the Town Board of the aforesaid town, on the 28th day of November 1990 at the Clarence Town Office Building, 1 Town Place, Clarence, New York, the following resolution was unanimously adopted, every member present voting therefor, to wit:—

Motion by Supervisor Grenzebach, second by Councilman Boller the following resolution on the Freshwater Wetlands Act be approved with copies sent to members of the State Legislature:

WHEREAS, the current FRESHWATER WETLANDS ACT calls for a balance between environmental concerns and the general welfare, economic, social and agricultural developments of the Town of Clarence and

WHEREAS, the Town of Clarence believes the wetlands should be protected and wholly supports the legislation now in effect and

WHEREAS, the New York State Department of Environmental Conservation proposes revisions to 6NYCRR, Part 664 Freshwater Wetlands Mapping and Classification Regulations and

WHEREAS, the proposed revisions do not maintain the balance set forth above, and contains changes which we believe exceed the statutory authority granted by the Freshwater Wetlands Act and

WHEREAS, the proposed regulations may impact up to seventy five (75%) percent of the Township of Clarence and may result in loss of millions of dollars in tax revenues to the Town of Clarence, now, therefore be it

RESOLVED, that the Town Board of Clarence, New York strongly opposes the proposed administrative rule making by the New York State Department of Environmental Conservation which exceeds statutes and circumvents the legislative process and in this instance irreversibly upsets a sensitive balance and sets a precedent of catastrophic proportions, both economically and environmentally, and be it further

(Continued to Page 2)

I do further certify that I have compared the foregoing with the original minutes of the adjourned, regular, special meeting of the Town Board of the said Town held on the 28th day of November 1990, and that the foregoing is a true and correct transcript from said original minutes and the whole thereof, and that the resolutions duly adopted by the said Town Board are on file in my office.

I do further certify that the following members of the Town Board were present at such meeting, namely,

Irving W. Grenzebach } Supervisor
John F. Love
Roland L. Boller
Daniel A. Herberger
Daniel M. Gregorio (Absent) } Councilmen

being all the persons constituting said Town Board of the Town of Clarence, Erie County, New York.

IN WITNESS WHEREOF, I have hereunto set my hand and the seal of the said Town of Clarence, Erie County, New York, this 3rd day of December 1990

Town Clerk, Town of Clarence, N. Y.

RESOLUTION RE: Freshwater Wetlands Act

RESOLVED, that the New York State Legislature members from Western New York be sent copies of this resolution and be strongly urged to actively participate in legislative deliberations so that the important wetlands be protected, but the burden of preservation should not unfairly burden and unconstitutionally fall upon the backs of communities made up of private property owners.

Upon roll call - Ayes: All; Noes: None. Absent: Gregorio. Motion carried.

DEC 19 1990

NIAGARA COUNTY SOIL AND WATER CONSERVATION DISTRICT

4487 LAKE AVENUE
LOCKPORT, NEW YORK 14094
TELEPHONE (716) 434-4949

Representative in Congress
Hon. John J. LaFalce
615 Main Street
Niagara Falls, NY 14301

December 7, 1990

Dear Rep. John J. LaFalce:

We are writing to you concerning the Army Corps of Engineers and their use of Section 404 of the Clean Water Act for controlling activities in potential wetland areas. We are seeing too many interpretations of how wetlands are determined, extensive time delays on issuance and/or denials of permits, and an inaccessibility of Corps personnel to answer questions. Other problems caused by these regulations are the growth of development sites into active agricultural land, shifting of tax bases and burdens, and the loss of land use choices.

The Board of Directors of the Niagara County Soil and Water Conservation District support the need for preservation and protection of our important wetlands. But not all wetland areas, as defined by the wetland definition, are important to the local communities. The new regulations could affect as much as 65% of the county's land mass. Even areas which have been drained one hundred years ago for settlement and farming purposes are being affected by the Corps permit procedures.

Long delays and inaccessibility of the Corps personnel are unnecessary, and, causing people frustration and economic hardships. Delays of 2-6 months in returning letters or permits are not uncommon. Locally, the Corps personnel are not accepting phone calls two days a week. Why? Because they have too many permits to review without enough personnel--and many of these permits are unnecessary.

We suggest that a serious review of this program be made to reduce the number of gray areas and broad interpretations of wetland boundary determination. Also, that possibly a size limit of greater than 1 acre of disturbance area in a suspected wetland be used, and, that local land use planning and zoning be looked at before condemning a piece of property with the wetland stamp.

As is, these regulations will drive development into agricultural regions, increase the cost of puchasing land that's not wetlands and make property labelled wetlands, by the new definition, worthless. For the wetland environment these regulations are very protective, but what about the agricultural environment, social and economic environment, etc. of the region?

Please review the Corps program to make necessary modifications in reducing the paperwork, review time process and, also, cost to the government and property owners for administration of the program. We need to review what the intent of the law was, and put values on these wetlands so to protect those of higher quality and importance. Regional wetland needs and wetland conservation plans need to be developed. Perhaps we need to give current wetland owners compensation, or incentives, to keep their property in wetlands.

The Corps has created a bureaucratic nightmare out of this program. Please help to correct it.

Sincerely,

Ernest A Buhr Jr

Ernest A. Buhr, Jr.
Chairman

EB/drt

11/30/90 12:02 ☎716 694 5419 WHEATFIELD TOWN P.04

TOWN OF WHEATFIELD
NIAGARA COUNTY

2800 CHURCH ROAD
NORTH TONAWANDA, NEW YORK 14120

(716) 692-7708 694-6880
FAX (716) 694-5419

TERRY W. KUEHN
SUPERVISOR

October 15, 1990

IMMEDIATE RELEASE

AS SUPERVISOR OF THE TOWN OF WHEATFIELD, I AM DEEPLY CONCERNED WITH ANY ADDITIONAL PROPOSED CHANGES CONCERNING FRESHWATER WETLAND'S MAPPING AND CLASSIFICATION REGULATIONS. WE ARE VERY AWARE OF THE PRESIDENT'S PROMISE THAT THERE WILL BE "NO NET LOSS OF WETLANDS". THIS DESIGNATION WOULD BE DISASTEROUS IN NIAGARA COUNTY WHERE AS MUCH AS 90% OF EXISTING LAND WOULD BE DECLARED WETLANDS. OUR FEW REMAINING FARMERS ARE INCREASINGLY PRESSURED BY OUTSIDE RULES THAT BOTH STATE AND FEDERAL GOVERNMENTS HAVE INSTITUTED. THESE GOVERNMENTS SHOULD PRACTICE WHAT THEY PREACH AND SURRENDER MORE CONTROL BACK TO LOCAL GOVERNMENTS. A RECENTLY PROPOSED GAS LINE THAT PASSES THROUGH WHEATFIELD, OTHER TOWNS, AND EXISTING WETLANDS, MAY BE DIFFICULT TO STOP BECAUSE THE PRESIDENT SAID IT IS NEEDED. WHEN LOCAL ELECTED OFFICIALS QUESTIONED THE STATE PUBLIC SERVICE COMMISSION ON THE LINE, THEIR ANSWER WAS SIMPLE. THEY AGREED TO TOUR THE PROPOSED ROUTE, BUT WERE NOT AGREEABLE TO LISTEN TO LOCAL VIEWS, AND IN FACT, LEFT THE SCENE OF DISPUTE IN A HURRY. THE POINT IS THAT THE COUNTY OF NIAGARA HAS EXPERIENCED POOR ECONOMIC CONDITIONS AND NOW, WHEN THE OPPORTUNITY FOR QUALITY GROWTH IS HERE, THE LAST THING WE NEED ARE ADDITIONAL RULE CHANGES THAT MAKE MANY PROPOSED PROJECT COSTS PROHIBITIVE AND IMPOSSIBLE. MANY FARMERS IN WHEATFIELD ARE FIGHTING TO MAINTAIN FARMS THAT HAVE BEEN IN THEIR FAMILIES FOR OVER ONE HUNDRED YEARS. THEY REALIZE NOW THAT THEY HAVE TO SELL ALL OR PORTIONS OF THEIR FARMS TO FEED THEIR OWN FAMILIES. IF THEIR FARMS CONTAIN WETLANDS, THEY CANNOT PROFIT FROM THE SALE. IF STATE AND FEDERAL GOVERNMENTS WANT CONTROL OF THIS LAND, LET THEM PURCHASE IT AT FAIR VALUE THEREBY MAINTAINING LOCAL TAX BASES. IF REGULATIONS ARE TO CHANGE, THEY MUST BE EQUITABLE, AND THE DESIGNATION OF UP TO 90% OF NIAGARA COUNTY AS WETLANDS IS FAR FROM FAIR. THE PRESIDENT IS LEAVING THE FARMERS WITH NEXT TO NOTHING. THIS IS NOT THE AMERICAN WAY, AND I AM SURE, RECONSIDERATION ON YOUR PART IS THE ONLY FAIR AND EQUITABLE RECOURSE.

Terry W. Kuehn
Supervisor

TOWN OF WHEATFIELD
NIAGARA COUNTY
2800 CHURCH ROAD
NORTH TONAWANDA, NEW YORK 14120
(716) 692-7700 694-6680
FAX (716) 694-5419

TERRY W. KUEHN
SUPERVISOR

December 3, 1990

Col. John W. Morris, Commander
Dept. of the Army
Buffalo District, Corps. of Engineers
1776 Niagara Street
Buffalo, N.Y. 14207-3199

SUBJECT: DRAFT REPORT - LIMITED MAP MAINTAINENANCE PROGRAM
TOWN OF WHEATFIELD, NEW YORK

Dear Col. Morris,

We have reviewed the draft report and accompanying flood profile and flood boundary map showing the effective changes to the floodway and floodplain boundaries resulting from the use of revised rainfall information for the hydraulic analysis of Bergholz Creek.

It appears that the reanalysis of Bergholz Creek has resulted in the establishment of a reduced 100 year peak discharge and corresponding water surface profile. This effectively reduces the 100 year flood plain south of Bergholz Creek between the corporate boundary and Niagara Road. The reduction of the 100 year flood plain is beneficial to the Town of Wheatfield and its affected residents.

However, the floodway area south of Bergholz Creek between the railroad and Niagara Road has dramatically increased in size. This will have a severe impact on the land owners who will be affected by this change. As you know, the construction of any type of obstruction in a floodway is prohibited. Therefore, we respectfully request that an explanation be given for the expansion of the floodway boundary. It appears to us that, with the reduction of the peak discharge and water surface profile of Bergholz Creek, the floodway area should have decreased in size as did the flood plain area.

We believe that, upon further review by your staff, the proposed floodway boundary line should be located somewhere between the existing floodway boundary and Bergholz Creek. For this reason, we request that your submission to the Federal Emergency Management Agency be delayed until the floodway boundary matter is resolved.

Thank you for your cooperation in this matter. If you have any questions regarding this issue, please feel free to call me. Again, thank you and I await your response.

Sincerely,

Terry W. Kuehn
Supervisor
Town of Wheatfield

Arbordale
HOME & GARDEN
SHOWPLACE

December 26, 1990

DEC 28 1990

John J. LaFalce, Representative
111 West Huron Street
Room 1304
Buffalo, New York 14202

Dear Mr. LaFalce,

This is to express my concern over the proposed change to the New York State Department of Environmental Conservation Freshwater Wetlands Mapping and Classification Regulations. (6 NYCRR Part 664)

The intent of the original Freshwater Wetlands Act states that wetland protection should be consistent with the general welfare and beneficial social, agricultural and economic development of the state.

The proposed changes ignore this intent and in some cases, the changes go beyond the statutory authority of the DEC and should be given consideration in the New York State Legislature.

The proposed changes to the DEC regulations could result in the classification of up to 60-70 percent of Erie and Niagara Counties as wetlands based on the presence of hydric soils and soils with potential hydric inclusions.

The result of these changes would be to affect a large number of Western New York property owners. The DEC has failed to provide adequate justification for these changes.

While protection of valuable wetlands is a necessary goal, the regulation of every tract of land that exhibits any potential wetland characteristics is inefficient and administratively impossible.

I feel that the rights of private property owners should be taken into consideration and that these proposed changes be sent to the state legislature to keep the original intent of the wetlands legislation in place.

Sincerely,

Richard A Salmon

Richard A. Salmon

RAS/th

ARBORDALE NURSERY Inc. 480 Dodge Road Amherst, New York 14068 716-688-9125

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NEW YORK STATE CHAPTER, INC.

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Albany, New York [illegible]
Telephone: (518) 456-1134
(800) [illegible]
FAX: (518) 456-1198
A. J. Castelbuono, Exec. Vice President

WESTERN REGIONAL OFFICE
[illegible] Southwestern Blvd.
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*Denotes National AGC Director

January 21, 1991 JAN 28 1991

OD
for rec.
Jo

Hon. John J. LaFalce
United States House
of Representatives
House Office Building
Washington, D.C. 20515

Re: N.Y.S. Proposal to Amend Wetlands Regulations

Dear John:

AGC is very much opposed to recently proposed changes in wetlands regulations offered by the State Department of Environmental Conservation.

Enclosed is our letter to the DEC opposing these changes, together with the ESCAPA presentation that expresses our view in more detail.

The various impacts of these regulations on small businesses, developers and communities that you mention in your January 14 press release announcing your January 22 hearing in Lockport are accurate.

Please know of our continuing interest in this issue and our appreciation for your concern and involvement.

Best personal regards.

Sincerely,

Bob

Robert J. Bain, Director
AGC Governmental Affairs

RJB:bb
encls.
cc: S. Forrestel, AGC Reg. 5 Director
E. Graber, National AGC
G. Archer, AGC Reg. Mgr., WNY

ASSOCIATED GENERAL CONTRACTORS OF AMERICA
NEW YORK STATE CHAPTER, INC.

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1900 Western Avenue
Albany, New York 12203-8087
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William A. Hendrickson
Hendrickson Brothers, Inc.
*Richard C. Holmes
Holmes & Murphy, Inc.
*James H. [illegible]
[illegible] Construction Co., Inc.

*Denotes National AGC Director

January 8, 1991

Ms. Patricia Riexinger
New York State Department
of Environmental Conservation
Division of Fish & Wildlife
50 Wolf Road - Rm. 524
Albany, New York 12233-4757

Re: DEC Proposed Freshwater Wetlands Rules

Dear Ms. Riexinger:

The N.Y.S. Chapter, Inc., AGC, represents the road and bridge construction and repair industry. The Changes proposed by DEC in the state's Freshwater Wetlands regulations will have an adverse impact on land development and the availability of aggregate materials vital to our Industry's on-going effort to repair New York's transportation system.

AGC, therefore, stands opposed to these changes offered by your Department.

Industry input to DEC on specific points has been expressed by several Industry spokespeople at your recent public hearings. We concur with the conclusions contained in the position paper offered by the Empire State Concrete and Aggregate Producers Association on this issue.

In our view, ESCAPA makes a clear and cogent case for caution and further study on this issue. In general terms, AGC finds the DEC's approach in this matter to be contrary to our system of state government as we know it today.

Many of the changes you seek to establish by regulation were previously proposed in Governor's Program Bill No. 259 (A.11902) in 1989. Sources in the State Legislature tell us that no action was taken by either house because of many questions regarding not only changes in the definition and scope of wetlands proposed, but also the constitutional questions raised in the state's taking of private property.

(more)

Ms. Patricia Riexinger
N.Y.S. D.E.C.
Albany, New York
January 8, 1991
Page Two
Re: DEC Proposed Freshwater Wetlands Rules

Having failed in the legislative process, the DEC is now attempting to circumvent that process through the current regulatory effort. Thankfully, this fact has not escaped the attention of the N.Y.S. Senate Administrative Regulations Review Commission and its co-chairman, Sen. Jess Present.

Last November, Sen. Present wrote to Commissioner Jorling stating that "...constitutionally, the Legislature is the body that sets policy before it can be implemented by a state agency." I know that other state lawmakers have made this point at your regional hearings.

We agree that the Department has overstepped its bounds on this issue. We urge DEC to abandon the proposed rule changes and present its case anew to the State Legislature for its consideration.

Sincerely,

Robert J. Bain, Director
AGC Governmental Affairs

RJB:bb
cc: Hon. J. Present
    Hon. T. Jorling
    AGC Environmental Committee
    AGC Board of Directors

DEC 14 1990

CMX MDS
Laboratories

December 13, 1990

Congressman John J. LaFalce
111 West Huron Street
Room 620
Buffalo NY 14202

Dear Congressman LaFalce :

Enclosed is a letter that I recently sent to our state and local representatives.

We need to resolve the wetlands issue including the role played by the Army Corps of Engineers.

I would be interested in your comments on the subject.

Thank you.

Sincerely,

James Wheat
President

JW/mym

Enclosure

One Sylvan Parkway • West Amherst, New York 14228 • (716) 689-7555

CMX MDS
Laboratories

December 11, 1990

COPY

Dear

I am very concerned about the changes to the Freshwater Wetlands Mapping and Classification Regulations (6 NYCRR part 664). These proposed changes would have a wide ranging impact affecting homeowners, businesses and municipalities.

I am in favor of wetlands protection and we, in New York State, have a sensible policy, which was passed by the State Legislature in 1975 after extensive debate. The legislative intent of the original Freshwater Wetlands Act states that wetland protection should be consistent with the general welfare and benefit social, agricultural and economic development of the state.

Some aspects of the proposed changes seem to go beyond the statutory authority of the DEC and ignore the original intent. In particular, I am concerned about the use of the "unusual local importance" clause to expand the DEC authority to parcels of land below 12.4 acres, the addition of hydric soil types for delineation, and the 500 foot boundary provision.

One of our corporate buildings is located near a drainage pond in a developed area. Under the proposed changes, the property could be irresponsibly classified as wetlands, with all the negative implications. Even the possibility will keep potential buyers and the banks from considering it a viable property.

The people of New York State through its elected representatives should determine policy for protecting the environment. I feel these proposed changes should be sent to the state legislature to maintain the original intent of the wetlands legislation and take into consideration the rights of private property owners.

I would appreciate your support in opposing the proposed changes to the DEC Wetland Regulations.

Thank you.

Sincerely,

James Wheat
President

JW/mym

EMPIRE STATE CONCRETE AND AGGREGATE PRODUCERS ASSOCIATION, INC.

POSITION PAPER

ON PENDING FRESHWATER WETLANDS REGULATIONS

The Empire State Concrete and Aggregate Producers Association, Inc. (ESCAPA) is a statewide trade association representing crushed stone, sand and gravel, lightweight aggregate and ready mixed concrete producers in New York State. This position paper highlights the concerns of these industries with respect to the Department of Environmental Conservation's (DEC) proposed rulemaking on Freshwater Wetlands regulation.

The member companies of ESCAPA play a crucial role in the economy of New York State. Without the production of quality construction aggregates and concrete, our lives would be vastly different. The materials produced by our industries are an integral and irreplaceable part of our society; from highways and bridges to pharmaceutical and agricultural products. Like farming, we harvest our products from the ground, extracting materials for use in construction. Construction materials are nonrenewable resources, meaning that additional land is continually required to supply additional materials.

The Empire State Concrete and Aggregate Producers Association, Inc. believes that wetlands must be regulated and preserved. However, that regulation and preservation must be orderly and in accordance with the letter and intent of the Wetlands Law. It is the position of this Association that wetland benefits must be balanced with other societal needs and benefits, and that DEC's rulemaking must reflect the intent of the Legislature.

No-Net-Loss Policy

The policy of no-net-loss of freshwater wetlands is very positive and should be pursued to protect the many benefits provided by wetlands. The application of wetland regulations, including the no-net-loss policy, while still providing for reasonable land use development will, however, require flexibility. There are many instances when sound land use development requires disturbance of a wetland. To meet the intent of the no-net-loss policy, a series of "offsets" should be developed as acceptable mitigation to wetland disturbance. Such offsets could include replacement of a disturbed wetland with a newly created wetland and development of a new, environmentally beneficial land use. The application of such offsets will allow for achievement of the wetlands policies while providing flexibility to allow for positive and constructive land use development.

Wetlands Delineation

New York State's concrete and aggregate producers acknowledge and appreciate the streamlined wetlands regulatory process envisioned in this rulemaking proposal. However, we believe wetland delineation and regulation should continue to be based on site reviews and case-by-case analyses. The "broad brush" approach in the proposed regulations, allowing for automatic inclusion and upgrading of wetlands without a site-specific analysis, is a significant departure from the statutory language.

Our Association also acknowledges the Department's efforts to establish and document wetland boundaries. The two year commitment for delineation during project development provides an element of stability for project planning. However, to provide the stability needed to insure the successful completion of a project, we believe the wetland delineation should be fixed for the term of the project.

ESCAPA recommends that clear and precise direction be provided to DEC staff in the regulations. For example, in the proposed regulations, Department staff are required to delineate wetland boundaries only upon a showing of "good cause," though "good cause" is undefined. This language allows for considerable Departmental discretion and may result in costly delays to project development. Similarly, we oppose the term "as soon as practicable" for defining DEC's responsibility to process a delineation request. These requests, and those for map amendments, should be processed according to Uniform Procedures Act timeframes.

The proposed regulations allow for increasing the size of the "adjacent area" around a wetland (at the discretion of DEC) and the inclusion of upland areas surrounded by wetlands. These revisions go beyond the original intent of the Legislation and will have a profound impact on the mining and construction industries. For example, a square 12.4 acre wetland and its current 100 foot wide buffer zone comprise 20.1 acres. If the buffer zone is increased to 500 feet, the area regulated by DEC will increase to 69.1 acres, a 244% increase. This increased regulation will result in increased costs, time delays and uncertainties in permitting and further restrictions in land use. Consequently, our Association opposes these changes in the absence of amended legislation and detailed criteria for implementation.

The Association is also concerned that several of the wetlands determination criteria in the proposed regulations are based on groundwater and surface water conditions. These conditions often vary over short periods of time and from season to season. Moreover, these conditions frequently have little or no relevance to the wetlands themselves. For example, it is not difficult to prove that a wetland is "hydraulically connected" to groundwater. However, if a project is downstream or down-gradient from a wetland, the hydraulic connection alone will not affect the wetland.

Expansion of the current wetlands definition by including additional criteria for determination of wetlands (such as the cited example) requires a change in the statute. DEC has overstepped its authority and bypassed the Legislative process by including these additional criteria.

Conclusion

The member companies of the Empire State Concrete and Aggregate Producers Association, Inc., acknowledge the importance of wetlands and the need to protect their many environmental benefits. Our industries have structured their operations to avoid negatively impacting wetlands, and diligently attempt to work within the letter and spirit of the Wetlands Law. However, we believe the DEC's proposed wetlands rulemaking exceeds the authority granted by the Legislature. The proposed regulations limit land use options, including aggregate extraction, on property across the State, and jeopardizes New York State's economic and social infrastructure. ESCAPA urges consideration of this position paper as additional wetland regulatory changes are formulated.

LIBERTY SQUARE DEVELOPMENT CORP.
4600 Main Street, Snyder Common
Snyder, New York 14226 / (716) 626-1550

October 12, 1990

Honorable Thomas C. Jorling
Environmental Conservation Commissioner
50 Wolf Road
Albany, New York 12232

RE: SOIL TESTING - WETLANDS

Dear Honorable Jorling:

In February of 1989 my partners and I had an idea for a subdivision in Western New York where we could keep our lot prices under $30,000.00 to the builder and in turn keep the prices of the homes to be constructed between $125,000.00 and $155,000.00 including lot. Thus was born our subdivision Liberty Square in the Town of Lancaster and The Woods at Versailles in Hamburg, New York.

We received Town Planning Board approval in both communities, and they were happy to have us. In both cases, there was a public hearing and we were approved. In the case of Liberty Square we received final Town approval in July of 1990.

After receiving the Town approval we immediately applied for our sewer permit only to find out that a soils test was now required. The Town of Lancaster is the lead agency on Liberty Square and all the information concerning the project was submitted through S.E.Q.R. for their review. We received no negative response. The D.E.C. was notified months in advance of Town approval and at no time were we required to submit a soils test. We only learned of this requirement when we applied for our sewer permit! THIS IS WRONG! It shows a total lack of concern and compassion for the landowner and taxpayer of this state who are only trying to develop their land that is in neither a flood plane nor a wetland area according to the State and Corp of Engineers maps.

In our case, before we ever purchase a parcel of land, we check to make sure that the property is not near or in a flood zone or wetland area. The only source of this information has been the Corp of Engineers. If their records and resources are not up-to-date, then what are we to do? We can only go on the information that is provided to us.

If you are going now to require soils tests then the property owners should have been so advised by the D.E.C. when they first contacted them through the various towns when the projects were in their beginning stages. To allow the property owners to think everything is fine, to have them spend tens of thousands of dollars for engineering, toxic waste studies, environmental, etc. and to wait until they have all the local approvals and contracts have been awarded to general contractors and then only to inform them about this new soils test requirement when the project is ready to start shows a total lack of compassion. Everything now comes to an abrupt halt for the landowner, the developer, the contractor - for all who are New York State taxpayers.

In the case of Liberty Square, we have completed the soils and vegetation studies and the report will be going to the Corp of Engineers shortly. This is a subdivision of only thirty three (33) lots, all selling for under $30,000. The additional costs incurred due to the soils testing study, delays, interest payments, and God forbid the loss of lot or lots will drive up the cost of affordable housing. We had been able to price our lots under $30,000, but with the delays and added costs, it will now be extremely difficult. It costs exactly the same amount of dollars to construct 75 lineal feet of road in front of a $30,000 lot as it does in front of a $65,000 lot.

When young people ask me why these lots are so expensive I can only say to them that is our State and Federal Govenments that are eliminating affordable housing in this State. It is not our local government!

To top it off, not only are we required to do the soils testing, but there are only a few qualified firms that can do the work. So, what happens? We all have to wait our turn to have the study done, more delays, more costs! For, example, the company doing my soils test for The Woods at Versailles in Hamburg informed me that they had to turn down fifty (50) projects including mine. When I was in their office, another competitive company doing the same studies called and asked if their people could go out into the field with their people and gain a better understanding as to what to look for in the field and how to properly submit a final report to the Corp of Engineers. This points up the fact that for the amount of studies now being required, there are too few qualified companies to do the work. So projects will again be put on hold, more delays, more unexpected costs! **THIS IS UNFAIR!**

So what you have to do is wait in line for a qualified company to check your project. Since these studies can only be done at certain times because of vegetation, further delays are inevitable. In the case of The Woods at Versailles, I had a soils engineer spend two hours last month doing spot checks on the property. He found only a few pockets of hydric soil and informed me that the project looks good, but he would have to do a complete study. The only problem is to do the scheduling to get the study done. All engineering for the project is now at a halt until the soils test is done next spring. Thus an entire year is lost, but the interest payments go on, they do not stop! All the additional costs have to be added into the lot prices, thus the State of New York again prevents a developer from making affordable housing available that younger families can afford.

The only land that will ever be developed in the future according to the D.E.C. and Corp or Engineers will be the rich fertile farm lands of this State. We will then leave to our children and grandchildren only the flood lands, swamps, and hydric soil lands to raise the food for their families and we have only the D.E.C. and Corp of Engineers to thank!

If they continue this strict enforcement, 90% of Western New York will no longer be developed and this area will not go into a recession like the rest of the country BUT A DEPRESSION!!!

Yours truly,

Dana Warman - Land Developer

DW/mac

NOV 16 1990

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716 - 434-9138 625-8360
FAX # 716-433-2627

November 13, 1990

The Honorable John J. LaFalce
2367 Rayburn Office Building
Washington, DC 20515

Dear Mr. LaFalce:

Thank you for your November 5, 1990 letter regarding proposed changes in the State Wetland regulations. This was in response to the attached October 17, 1990 letter regarding the impact of Federal Wetlands enforcement in Erie and Niagara Counties. Your letter did not address this impact, and I would appreciate your comments, particularly in view of the attached Buffalo News articles indicating that up to 90% of Niagara County and 50% of Erie County could be designated as wetlands. Is this acceptable to you?

Also attached is a notice for a workshop on the New Role of Federal Regulations in Land Use Decisions. Shouldn't we also have a workshop on the New Impact of Federal Regulations in Land Use Decisions? Has the Federal government done any work regarding the impact of these regulations? This is a key point, and I look forward to your response.

Yours truly,

Michael F. Patterson

Michael F. Patterson, P.E.
Vice President

MFP:dlw 125850
Enc.

October 17, 1990

John J. La Falce
Congress of the United States
2367 Rayburn Office Building
Washington, DC 20515

Dear Mr. La Falce:

On October 16, 1990 I called your office regarding the impact of Federal Wetlands enforcement in Erie and Niagara counties. I spoke with Ms. Susan Lubeck and stated that this enforcement was "creating chaos". I was certainly surprised when Ms. Lubeck stated that your office was not aware that a serious problem existed.

Perhaps chaos is too strong a word...and perhaps not. For instance, the NYSDEC is proposing state adoption of the Federal Wetlands guidelines. A public hearing was scheduled at the Lockport City Hall on October 16, 1990. This hearing had to be postponed due to the large turnout...my opinion is that these parties were strongly opposed to these guidelines. And rightfully so...the Federal Wetland guidelines represent a unacceptable intrusion of the government into the lives and property of its citizens.

At the earliest possible opportunity, you should (1) make an attempt to understand the impact of Federal Wetland guidelines on your constituents, and (2) make your constituents aware of your position with respect to these guidelines.

Yours truly,

Michael F. Patterson, P.E.
Vice President

MFP:hen
Enc.

WETLANDS: The New Role of Federal Regulations in Land Use Decisions

Just when you thought you knew what a regulated wetland was . . .

WHY ATTEND

In the past year, the U.S. Army Corps of Engineers has become the key actor in wetlands regulation. In Erie County, federally regulated wetlands are now much more extensive than those mapped and regulated by NYSDEC.

WHAT YOU WILL LEARN

- How to screen property for potential wetlands.
- What field indicators are used to delineate wetlands.
- Where resources are available to identify wetland areas.
- How and why the regulatory environment has changed.
- What is involved in the permit process.
- When the joint permits are issued and NYSDEC involvement.
- Who is responsible for enforcement.
- When local land use decisions should involve delineation of wetlands.
- How the concerned and informed citizen can participate in the process.
- What penalties property owners/developers are subject to for unauthorized activity.

Presentations will include discussion of a case study so you can apply what you are learning to a development proposal.

WHERE, HOW MUCH

The workshop will be held at the Parkside Village Community Center, 168 Sheridan Parkside Drive (off Sheridan Drive, west of Military Road) Town of Tonawanda. There is NO FEE. If you join us for the entire workshop, we suggest you bring a bag "lunch".

WORKSHOP PROGRAM - NOVEMBER 29, 1990

3:45 Afternoon Registration
Video on Wetland Values

4:15 How to Use the Soil Survey:
Its Role in Wetlands Identification

John Whitney, District Conservationist
USDA-SCS

5:00 Field Indicators for Wetlands

Rosty Caryk, Senior Ecologist
Beak Consultants

5:45 Dinner Break/Evening Registration

6:15 Welcoming Remarks - Richard M. Tobe
Commissioner Erie County DEP

6:30 Federal Wetlands: The Corps' Expanding Regulatory Role

Paul Leuchner, Chief Regulatory Branch
Army Corps, Buffalo District

8:00 NYSDEC Regulation and Coordination Procedures

Steve Doleski, Regional Permit
Administrator, DEC, Region 9

8:30 Effects on Development Proposals

Donald Stefanski, Esq.
Whiteman, Osterman & Hanna

Kevin Young, Dir. Env. Resources
Acres International

9:00 Panel Discussion:
Local Roles and Options

For more information, please call Barb Shilling at 858-7254

REGISTRATION FORM

NAME: DAY PHONE:

TITLE/AFFILIATION:

ADDRESS:

Please indicate session(s) you will attend: Afternoon Evening

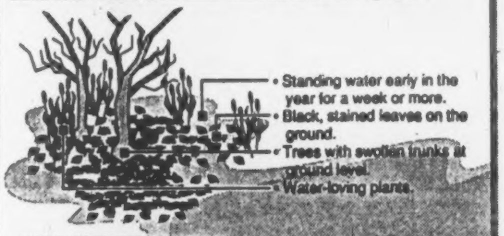
Please return by November 19 to: ERIE COUNTY PLANNING DIVISION, 95 Franklin Steet,
Buffalo, New York 14202

New wetlands rules are stifling development

JACK WEIBEL/Buffalo News

WHAT IS WETLAND?

Land doesn't have to be under water. It could merely have:


• Standing water early in the year for a week or more.
• Black, stained leaves on the ground.
• Trees with swollen trunks at ground level.
• Water-loving plants.

WHAT GOOD ARE WETLANDS?

- They hold floodwaters and serve as groundwater recharge areas.
- They filter contaminants from surface water, maintain water quality and trap sediment.
- Furnish habitat for fish and wildlife and protect shorelines from erosion.

Source: U.S. Army Corps of Engineers

By RICK STOUFFER
News Business Reporter

Presidential candidate George Bush two years ago made a simple campaign statement that today is impacting development nationwide.

The president, pushing his image as the environmental candidate, proposed "no net loss of wetlands."

Months later, the U.S. Army Corps of Engineers read its new commander's lips and, coupled with decisions revolving around a four-year-old court settlement, began pushing hard for wetlands protection.

Then, seven months ago, the Corps joined the Environmental Protection Agency, the U.S. Fish and Wildlife Service and the Soil Conservation Service in publishing a revised Federal Manual for Identifying and Delineating Jurisdictional Wetlands.

It built on long-standing rules for delineating, or determining a wetland, dating back to the Clean Water Act of the early 1970s, but was much more inclusive in its wetlands definition.

The result: Developers are screaming foul, and individual land owners are discovering they could be prevented from doing anything on their parcel but admiring the pin oaks, red maples or quaking aspens.

"This (dealing with the more inclusive Corps' provisions) is going to be a tremendous burden on a lot of developers," said Davis Tiburzi, owner of DRT Development. "There are a lot of developers who live project-to-project, season-to-season. The processing time will bankrupt tons of people."

Additional development on the Niagara Frontier has a potentially iffy future. Under the Corps' get-tough policy, it's estimated that as much as 80 percent to 90 percent of Niagara County, and well over 50 percent of Erie County fall under the new criteria.

Already, Erie County's Department of Environment and Planning, which issues sewer extension permits on behalf of the state Department of Environmental Conservation, has been told by DEC not to issue permits until soil testing per Corps' criteria has been

See Wetlands Page B14

Wetlands: Rules increase developer's co:

Continued from Page B13

Up to 90 percent of Niagara County and half of Erie County could be designated as wetlands — and thus restricted as to development — under the Army Corps of Engineers' new policy.

completed. Amherst is encouraging developers to see the Corps prior to even talking with the town.

Developers say their screaming only will increase if the state Department of Environmental Conservation makes proposed changes to its wetlands mapping and classification regulations. The DEC hopes to in many cases piggyback Corps' policy.

The value of wetlands has been documented. Once known strictly as ugly swamps, wetlands provide flood protection, help maintain water quality and supply water, in some cases furnish a fish and wildlife habitat, help prevent erosion and provide for education, research and recreational activities.

More than 16,000 freshwater wetlands exist statewide, encompassing more than 1 million acres and affecting more than 100,000 landowners.

Developers say if they know an area is classified as a wetlands, they gladly steer clear — the property is useless for little more than picnics and flora and fauna watching.

But they contend many projects already granted every needed permit and approval by local and state agencies — and in some cases already under way — must now be halted, with soil and plant experts called in to physically look for wetlands. Hopefully, then the developer will receive a Corps' permit to proceed. No permit, no project.

Staggering costs

Costs involved should a site need wetlands delineation tests can be staggering to many developers, they contend. Soil tests which may have cost less than $1,000 previously, pre-rush, now can run well over $10,000.

Add the cost of a botanist to inspect the flora for wetlands plants, plus a land survey, and the cost can run well into five figures. Soil scientist may be the occupation of the 90s.

Developers in a number of cases are paying thousands of dollars each month in interest payments on parcels, which can't be recouped until projects move forward. Opportunity costs, losing a tenant due to wetlands confusion, also can cause developers major financial headaches.

"It's (the Corps' new wetlands definition) increased by a year our

Aero Drive in Amherst," said Paul Ciminelli, vice president of Ciminelli Development. "We would have liked to have had 80,000 square feet to 100,000 square feet of space up. Now we can't even start putting in infrastructure until next spring."

Developers with a 50- to 75-acre parcel can expect the Corps to take between 120 and 150 days to say yea or nay on a particular project, said Phil Frapwell, chief of the Monitoring and Enforcement section in the Buffalo District's Regulatory Division.

Some real estate brokers predict that deals signed months ago may not be worth the cost of the contract paper, and that some property owners holding wetlands property, and could have a difficult time selling, may simply quit paying property taxes.

"If you sold a property six months ago with contingency that subdivision approval would be forthcoming in 18 months, you have a dead deal," said Michael Procknal, a broker with Stovroff & Herman Realtors.

Banks affected

Some industry experts even feel local banks may become major Niagara Frontier landowners should developers begin defaulting on parcels.

Developers, landowners — even municipalities — can't escape the wetlands rules. All sides readily admit the Corps personnel are trying to work with everyone, but rules are rules and as far as the Corps is concerned, ignorance of wetlands is not bliss — it's costly. A developer who unknowingly destroys a wetland is liable for a fine up to $25,000 per day beginning the day the offense was committed. If it's proven the developer

The Corps also can go the criminal suit route, where negligence means $2,500 per day in fines and up to one year in jail. Knowingly committing an assault on a wetland is $5,000 per day and up to three years in jail. The terms apply to developers, property owners — even the contractor hired to bulldoze the disputed area.

"The Corps could come in a year later and demand that the wetland be fully restored," said John Derbyshire, public affairs officer for the Corps' Buffalo District.

Technically, the Corps could demand restitution and the return of a wetland going back to 1984. Six years ago, a two-year old court case filed against the U.S. Army by 16 environmental groups was settled, resulting in the Corps, long known as a builder of dams, locks and bridges was made the great protector.

The Corps' role as turf defender is not new, it's just gotten more specific concerning what should be saved.

Basically, the Corps classifies wetlands according to three criteria. An area must have hydrophytic, or wetlands, vegetation; hydric or waterlogged soils, and wetlands hydrology, meaning the land is periodically or frequently flooded. The Corps states that water must be present during the spring growing season. All three criteria are needed for an area to be classified a wetlands.

Prior to this past March, the Corps looked for so-called obligate plants, or those which occur more than 99 percent of the time in wetlands under natural conditions. These plants include classic "swamp" species like cattails and water lilies.

"Now, we must look not only for obligate plants, but also facultative plants," said the Corps' Derbyshire.

Actually, two additional plant groups were added, which greatly increase potential wetlands throughout the U.S. Facultative-wetland plants usually occur in wetlands between 67 percent and 99 percent of the time and include weeping willow and pin oak trees.

Facultative plants can be found in wetland soils between 34 percent and 66 percent of the time, and include green alders, quaking aspens and red maples.

Applications are up

Because of the more inclusive definition, more applications are coming in to the Corps. Since

Branch chief.
Currently, more than
mits are pending in the
370 in the New York
which stretches primarily
Pennsylvania border excl
western Southern Tier, e
clude Binghamton and
entire district covers
square miles of territory
York, Pennsylvania and

Developers don't f
Corps for doing its job.
however, concerned wi
to halt work, wait for a
reengineer and redesign

"The Corps doesn't
manpower to do its job
veloper Dana Warman.
object to the tests, they
happened too late."

And while the Corps'
delineation procedures
no pun intended, the st
partment of Environmen
servation has issued its
changes concerning fr
wetlands mapping and
tion regulations.

In some cases, the ch
low closely the Corps' le
ing a goal of no net we
and using plant life, soil
drology to determine a
for example.

The DEC maintains
its regulations were pu
decade ago, a great deal
mation has been collect
ing the intrinsic value of
to the environment.
need for updating.

SEC charge stock trade

The Securities and
Commission has begun
trative proceedings again
mer head trader of Thon
Associates Inc., a penny
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The SEC alleged th
Salloum, who worked
Rochester-based brokera
ed anti-fraud provisions
securities laws.

It alleges he aided in
scheme to create an a
large demand for four i
lic offerings run by the
then charged customers
ly high markups for the

The firm's top officer
admitted the scheme a
to pay $1.5 million in
used for restitution to cu
In addition, its found

JAN 2 1991

the niagara frontier builders' association, inc.
90 sylvan parkway / w. amherst, new york 14228 / telephone 716 - 636-9655 / fax 716 - 636-9658

December 20, 1990

The Hon. John J. LaFalce
2367 Rayburn House Office Building
Washington, D.C. 20515

Dear Congressman LaFalce:

As you are already aware, the building and development industry in Western New York has been facing some serious problems with regard to the Corps of Engineer's wetlands policy.

To add insult to injury, the Corps has now proposed drastic fee increases for wetland permit applications and has added special service fees.

I have enclosed a copy of the position statement from the National Association of Home Builders, expressing strong opposition to the proposed amendment to the Corp's permit regulations.

Our Association agrees wholeheartedly with the NAHB position on this issue and would urge you to take a similar position in the form of a letter to the Corps of Engineers.

We would appreciate receiving your comments on this issue. If you have any questions, please feel free to contact Monica Linsin at the NFBA office, (716) 636-9655, or Mike Luzier at the National Association of Home Builders, (202) 822-0200.

Sincerely,

Joseph W. McIvor, Jr.
Executive Vice President

Sponsors of: Convention Center & Horizons Home Shows; Build Magazine
Affiliations: New York State Builders Association / National Association of Home Builders

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RECEIVED DEC 1 7 1990

National Association of Home Builders
15th and M Streets. N.W.. Washington. D.C. 20005
Telex 89-2600 (202) 822-0200 (800) 368-5242

Martin Perlman
1990 President

December 5, 1990

Office of the Chief of Engineers
ATTN: CECW-OR
Washington, DC 20314-1000

Re: Proposal to Amend Permit Regulations for Controlling Certain Activities in Waters of the United States

Dear Sir/Madam:

On behalf of the 157,000 member firms of the National Association of Home Builders (NAHB), I am pleased to submit comments on the proposed amendment to Permit Regulations for Controlling Certain Activities in Waters of the United States. NAHB members include not only people and firms that construct single-family homes, but also apartment, condominium, commercial, and industrial builders, as well as land planners and remodelers. NAHB is the voice of the American shelter industry.

NAHB adamantly opposes any increase in wetland permit application fees as well as the addition of the so-called special services fees. The imposition of new fees will unduly burden a vast majority of the industry. As of 1986, 72% of NAHB's members built 25 homes or fewer each year. The existing fee structure should be retained until other parts of the wetlands regulatory program are amended and clarified.

The housing industry continues to bear the brunt of federal wetlands regulatory protection efforts even though it causes only six percent of the wetlands losses in this country. The industry shoulders a radically disproportionate share of the regulatory burden while the major part of the problem--agriculture--remains largely exempt. The Army Corps of Engineers (Corps) is proposing to encumber further the regulated community by drastically increasing application fees, in some situations almost one hundred fold.

Relying on the Independent Offices Appropriations Act to levy fees to pay for its regulatory program, the Corps claims it based its estimates for the proposed fees in order "to recover 20 percent of the costs for implementation of the permit program and providing the services listed." The Corps goes on to say that these fees are for staff time and effort. Yet, the Corps provided none of the data from which it drew its conclusions. It is impossible to evaluate whether these fees even remotely reflect the true costs of the program to the federal government. Before the Corps increases its fees, it should submit the basis for its findings to public scrutiny.

The Corps has asked for comments on its decision to increase fees for permit evaluations, and to add fees for several special services: performing wetlands jurisdictional delineations, holding public hearings, and preparing environmental impact statements. NAHB opposes this rule on two levels. First, NAHB disagrees with the logic upon which this proposed rule is based, as set out in the preamble discussion. Second, NAHB objects to specific elements of the proposed rule, such as amount and type of fees being charged. The rest of this letter will address these concerns.

No Services Rendered

The Corps claims in the preamble that it provides a service for which it may charge a fee to recover its costs. NAHB disagrees. The Corps is not providing a service, but rather it is performing an essential function of government. There is a cost to society of regulating private property--in this case, the cost of the § 404 program. The preamble discussion approaches this issue from the wrong vantage point by presuming that the individual should pay for the cost of the public's infringement upon private property rights. We believe the public should assume this cost.

The Corps also asserts that the program confers a benefit of value to applicants, namely that there is a benefit to having a predictable denial. We question this assertion. Virtually no private property owner benefits from the regulatory program as it reduces property values and requires property owners to spend large amounts of money to deal with the program. While there may be a benefit, it inures to the public, not to the individual.

Objectives Not Achieved

The Corps states the major objectives of the proposed fee schedule are equity, administrative simplicity, and predictability. Yet the Corps fails to apply these goals to the regulatory program itself. The current § 404 program is a maze of overlapping and inconsistent regulations and policies intended to protect wetlands. These policies cause excessive delays and unnecessary costs both to permit applicants and to the government. In addition, none of these goals will be accomplished by the proposed fee schedule.

No Equity
Charging a fee does not achieve equity, especially for a regulatory program that is designed to be unpredictable, incomprehensible, and tortuously slow. What is equitable about a government taking a year or more to process a permit while the property owner continues to pay taxes, mortgages, and other expenses? The Corps has not weighed the costs of the regulatory program to the property owner.

No Administrative Simplicity
Adding a fee does not provide administrative simplicity. Creating a reasonable application process provides administrative simplicity. Further, if the policies were clear and reasonable, it would not cost so much to run the program. For example, the excessive field costs for jurisdictional determinations result from a bad manual--the Federal Manual for Identifying and Delineating Jurisdictional Wetlands. If a clearer manual were available, the government would not need to go into the field; rather, it could review the work of consultants in the office.

No Predictability
The Corps does not suggest that these increased fees will in any way reduce permit processing times, rather they will only offset existing costs. Lack of predictability costs builders money. The permit program needs to be clarified in order to provide predictability. If these fees are to be increased, there should be a commitment to reduce processing times. The fee schedule should remain as is until the Corps guarantees strict processing times.

FEES EXCESSIVE
The suggested fees are excessive. Not only must an applicant pay the $100 initial application fee in advance, but the applicant will also have to pay an increased fee for the permit. In the case of most of our members, this will amount to $2,000, the cost of a standard permit for commercial activities. Equally excessive are the charges for public hearings and wetlands delineations, which together can add up to $2,500 or more. Most of NAHB's members run small operations. They do not have the ability to absorb such high costs. The $2,000 permit fee, and any special services fees, will convert to larger and unknown sums once factors, such as interest payments being amortized over thirty years, are figured into the equation. These costs will go directly into the price of a new home, putting many first time buyers out of the market.

Permit applicants must pay $100 for any modifications to the application, including requests for extensions of time. Yet, the Corps offers no justification for the increased cost to them to process modifications. The permit applicant has a vested interest in getting through the application procedure quickly. If the Corps is interested in equity, it should pay permit applicants when it delays in processing applications.

Supplemental Charges Inequitable

The Corps is penalizing builders for not being able to understand a regulation on which the Corps itself refuses to issue clear guidance. The wetlands program is based on a fallacious presumption that wetlands are easy to identify, and thus easy to avoid. Because builders are often unaware of the existence of federally regulated wetlands on their property, they may fail to apply for the proper permits before beginning work. As a result of this confusion, a builder must pay an additional 30% to the already outrageous fees.

The kinds of fills that most builders are engaged in involve small discharges into low quality wetlands. Most permits that builders apply for should fall under Nationwide Permit (NWP) 26. But in most regions of the country, NWP 26 is not allowed to work. Instead of merely filing a predischarge notification, the builder is dragged through the lengthy process of filing an individual permit. This makes the program neither equitable, administratively simple, nor predictable. NWP should be reinstated as one method to achieve the goal of administrative simplicity. Finally, if an applicant files a predischarge notice under NWP 26 with his $100 application fee and the Corps then forces the applicant into a standard permit review, the $100 should be credited to his new application.

Special Services Imposed Without Option

Special services implies discretion on the part of the Corps. But jurisdictional delineations are not discretionary. First, a builder cannot get through the permit process without a jurisdictional delineation. Second, the Corps bases its fees on the size of the tract and not the size of the wetland. If an applicant has a 500 acre tract of land, he must pay $1,500, whether there are 2 acres of wetlands or 200. This burdens the housing industry disproportionately to the size of its role in the problem. Fees should be levied in proportion to the number of acres of wetlands affected.

The Corps proposes to add a fee to cover the costs of holding a public hearing, $1,000 payable prior to notice of meeting. The Corps does not limit who can request a hearing. Although the final determination to hold a hearing rests with the District Engineer, public opinion may get a DE to change his mind. If the Corps is going to charge a fee for a public hearing, the person requesting the hearing should pay the costs.

REGULATORY FLEXIBILITY ACT WRONGLY IGNORED

NAHB disputes the Corps's assertion that the Regulatory Flexibility Act will not have a significant impact on a substantial number of small businesses. As stated at the outset. the majority of our members--72%--are small businesses. We believe the Corps has a affirmative legal obligation to give more than perfunctory consideration to the potential impacts of this proposal on small businesses.

I appreciate your consideration of NAHB's views. If you have any questions or would like to discuss any issues raised in these comments, please do not hesitate to call me. My number is (202) 822-0200.

Sincerely,

Martin Perlman
President

OCT. 26 [illegible]

Scott Berry
5220 Mapleton Road
Lockport, New York 14094

Dear Mr. LaFalce,

I am a farmer in the Town of Pendleton and own approximately 50 acres of land which has been in my family since the early 1940's. My concern is the new wetland regulations. The 15 acres of wetland on my property, which I feel has been created by poor maintenance of town, state and railroad ditches, plus the leaking waterline supplying Lockport, I could live with, but with the new proposals (soil type and the extension of the 100 ft. boundary) my whole property would be labeled wetland.

I wanted to sell a couple of lots and then divide the rest between my children upon retiring. If these proposals are adopted, I would have a piece of property that is completely worthless on the market, my children lose their future homes, I am left to pay full taxes and this is definately infringing upon the property owners rights. Two agencys are involved with entirely different ideas. I spent some time on the phone with the D.E.C. and Army Corps of Engineers and received two different answers. According to the Corps, there would be a possibility of my children building their homes, according to the D.E.C. this would not be possible. Yet at the meeting in the Farm and Home Center on October 10th, 1990, the D.E.C. said that if the Corps gave a permit to build, they would also.

It seems the right hand doesn't know what the left hand is doing. I know the people of Niagara County are going to suffer from these regulations and something must be done. If the state wants these wetlands, buy them at a fair market value or give the property owner a tax break. We ask only that the government and their agencys remember we also are human beings and citizens and expect to be treated with dignity and fairness.

Scott Berry
12531-8

JOHN A. REPICCI, M.D
4510 MAIN STREET
BUFFALO, NEW YORK 14226

TELEPHONE:
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PRACTICE LIMITED TO
ORTHOPEDIC SURGERY

December 20, 1990

Congressman John LaFalce
1304 Federal Building
111 W. Huron
Buffalo, NY 14202

Dear Mr. LaFalce:

As a Western New York businessman, I am seriously concerned about recent Federal guidelines concerning wetlands. President Bush's recent guidelines indicate no net loss of wetland. This interpretation supervised by the Corp of Engineers is having a disastrous affect upon Western New York business.

According to the Corp of Engineers, any land which holds standing water for a period of two weeks or longer will develop vegetation consistent with wetland. Western New York has a high proportion of industrially polluted land as well as a high proportion of land which can be considered wetland by Federal definition. Regulation by the State Conservation Department was difficult enough, however, current Federal guidelines make it virtually impossible to plan or build in the Western New York area. This will be a disaster for the Western New York economy.

The Corp of Engineers merely carries out its interpretation of the Federal law. In fulfilling its duty, it is bringing industrial development to a virtual halt in Western New York. Legislative relief is urgently needed.

New York State, and in particular Western New York, has an excess of land suitable only for ducks and marsh type plants. To designate lands materially altered by past development such as Thruway exits, previous town or state planning, developmental projects instituted properly under previously exiting guidelines does not appear fair or reasonable.

Current Federal legislation with regards to guidelines will negatively affect development in Western New York during the 1991 building season. This will come at a time during which the country is experiencing a probable recession. This will also negate whatever gains may be achieved by recent Canadian free trade legislation.

Any legislative relief in this field of wetland management would be sincerely appreciated.

Very truly yours,

John A. Repicci, M.D.

JAR/cpm

Rep. John La Falce

DEC 26 1990

Mr La Falce
I am a propty owner in Niagara county
State of N.Y. Town of Lockport
at least I thought I was until I
attended the D.E.C. Public meeting
the 18 of Dec.
I cannot belive that our Elected Officials
would allow this what The D.E.C Proposses
to become the law.
If it does I think you will see
ecomomic disaster in this part of our state
I agree with your statment that this
matter should be a federal issue.
I also ask you to do what ever
you can to stop this injustment
on the Privat land owners.
I have been a small bussness man
in Niagara county for the past 20 years.
I bought propty for my retirement.
Now that I am ready to retire I can't sell
the propty. So I have no Retirement.
Please take Action on the wetlands act 51251
Thank you Howard Robertson Lockport N.Y.

William B. Stark, Jr.
22 Wynngate
Williamsville, NY 14221

December 7, 1990

DEC 10 1990

Congressman John J. LaFalce
111 West Huron
Room 1304
Buffalo, NY 14202

Re: Proposed Revisions to Freshwater Wetlands Mapping and Classification Regulations

Dear Congressman LaFalce:

I am writing to express my concerns and opposition over the proposed changes to the New York State Department of Environmental Conservation (DEC) Freshwater Wetlands Mapping and Classification Regulations. (6 NYCRR Part 664)

Due to the fact that these changes would affect a large number of New York State property owners, I do not believe the changes being considered have been thoroughly thought out. The DEC has failed to provide adequate justification for these changes, and does not explore the economic consequences of its action.

I feel the proposed changes should be sent to the state legislature to maintain the original intent of the wetlands legislation and take into consideration the rights of private property owners.

I would appreciate receiving your comments on these proposed changes. Thank you.

Sincerely,

Bill Stark

William B. Stark, Jr.

OPENING STATEMENT
OF THE
HONORABLE JOHN J. LaFALCE, CHAIRMAN
COMMITTEE ON SMALL BUSINESS
U.S. HOUSE OF REPRESENTATIVES

HEARING ON
"THE IMPACT OF FEDERAL WETLAND REGULATIONS UPON SMALL BUSINESS"

January 30, 1991
9:00 a.m.

The purpose of today's hearing is to discuss federal wetland regulations and, in particular, the problems that this regulatory process poses for small businesses in this country.

Section 404 of the Clean Water Act is the predominant federal program for the regulation of wetlands. When the Clean Water Act was originally signed into law, this section provided the means for regulating discharges of dredged and fill material that could potentially affect the quality of the nation's waters. Section 404 also established a permit program, to be administered by the U.S. Army Corps of Engineers, that would ensure that such discharges comply with environmental requirements. Nowhere in this original section was the term "wetland" mentioned let alone defined and few, if any, conceived at the time of enactment that the "discharge of dredged and fill material into waters of the United States" would evolve into the monstrosity of wetlands protection regulations that we are faced with today. It was through the course of litigation and various rule changes that the fundamental purpose of this section was lost to a limited scope of wetland protection.

There is no question that true wetlands are important and should be preserved. Wetlands are important public resources that temper floods, protect water quality, and sustain the food chains upon which our recreational and sport fisheries are based. They serve as nesting and rearing areas for waterfowl and wildlife and are the last strongholds for many threatened endangered species. These high quality resources need to be regulated and protected. However, this level of protection does not have to be extended mechanically to marginal wet areas that may have no important functions and values, and certainly not to dry areas that simply fall within the artificial parameters of some federal wetlands delineation manual.

In my district alone there are towns and municipalities that, as a result of overreaching federal regulations, have upwards of 65% of their land subject to the Army Corps of Engineers' permitting process. The six to eight month average delay in the granting of Corps permits, coupled with the four month winter dormancy period in the Western New York area has had a devastating impact on economic development. The small business community, particularly those involved in the real estate, homebuilding, construction, and related industries have been especially hard hit.

To make matters worse, the Corps district staffs are so overloaded with permit applications that they are incapable of performing wetland delineations. Rather than waiting for the Corps to schedule field delineations, the development community is turning to consultants to perform this task. Many of these consultants have little or no training and are easily overwhelmed by the complex technical procedures contained in the federal delineation manual. They often charge high fees for field delineations which are of such poor quality that they are rejected by the Corps and have to be done over. The developer usually has to pay the consultant to do the job over a second and even third time.

The federal delineation manual, I believe, is a source of many of the problems we face with regard to current wetlands policy and therefore deserves closer scrutiny.

Prior to 1989, each Corps district delineated wetlands on the basis of local procedures that took local environmental features and anomalies into account. In March of 1989, the Federal Manual for Identifying and Delineating Federal Jurisdictional Wetlands was adopted. This manual was jointly developed by the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, U.S. Department of Agriculture Soil and Conservation Service, and the U.S. Army Corps of Engineers. Use of the manual was mandated by a Memorandum of Agreement on Jurisdiction which was signed by EPA and the Department of the Army. It has been asserted that the establishment of the manual constituted minor technical changes in policy and therefore was implemented without going through the rulemaking procedures set forth in the Administrative Procedures Act. In reality, the manual substantially increased the wetland jurisdictional responsibilities of most Corps district offices. Even though the manual broadened the jurisdictional responsibilities of the Corps in wetlands, it did so without any grandfathering provisions. This created a substantial dilemma for developers who now had no time to make the transition from one level of regulation to another. There are a number of examples where contractors operating under prior procedures had secured all local and state permits for housing projects, and obtained financing, only then to discover that they could not proceed because wetland indicators were present and Corps permits were required.

The federal delineation manual lacks both flexibility and practicality. Had the public been offered an opportunity to provide input, which is customary in the rulemaking process, it is my belief that such features would have been built in.

Another policy change occurring on the heels of the federal manual was the establishment of the Memorandum of Agreement on Mitigation. This document was developed jointly by EPA and the Corps of Engineers. It establishes a sequential process for review of projects under the 404(b)(1) guidelines. Each project is first evaluated in terms of the applicant's ability to avoid wetlands. If the project is housing, for example, that does not have to be situated in a wetland to achieve its basic purpose, it will be nearly impossible to demonstrate that there are no less environmentally damaging alternatives. Assuming avoidance is achieved, the project then has to be evaluated in terms of the ability of the developer to minimize adverse impacts. If this hurdle is overcome, all that remains as a requirement is mitigation for the unavoidable adverse project-related impacts. This may be very difficult because the only way to compensate for a wetland loss is through replacement in kind. Artificial wetland creation is generally an unacceptable alternative although reconversion of agricultural lands to wetlands is a viable option. Failure at any given step can result in denial of the Corps permit request.

The problem with the Memorandum of Agreement on Mitigation is that it fails to take the quality of the resource into consideration. Once an area is deemed to be a wetland it is subjected to the mitigation procedural steps without any consideration of its inherent functions and values. There are cases where marginal wetlands with no discernible functions and values of importance to the general public should be excepted from the provisions of the mitigation agreement.

As was the case with the federal delineation manual, the Memorandum of Agreement on Mitigation was not developed as a result of any formal rulemaking process. If it had, perhaps there would have been provisions for dealing with wetland resources of low quality.

The public has recognized the need to reevaluate these federal wetland protection policies. At least one lawsuit has been filed challenging the validity of establishing the federal delineation manual without formal rulemaking. I am also in agreement with the need to reevaluate these wetland regulations and I will reiterate the position I took at the January 22 field hearing I conducted in Lockport, New York on this matter. It is my belief that a moratorium on the post-March 1989 federal wetland regulations is in order. I call upon those federal agencies testifying before the Committee today, to initiate such a moratorium so that balance and fairness can once again prevail.

As important as preserving our wetlands is, it also important that we achieve President Bush's goal of "no net loss" of wetlands by efficient and rational regulatory means. A moratorium would give us the necessary time to adequately evaluate and implement the following recommendations:

1) The Federal Manual for Identifying and Delineating Jurisdictional Wetlands must be put through a formal rulemaking process. The manual has been in use since March 20, 1989 and there is now sufficient field experience in the public sector to make meaningful changes that are practical and reasonable.

2) Establish reasonable grandfathering provisions that will allow the regulated public to make an orderly transition.

3) Modify the Memorandum on Mitigation to allow consideration of wetland resource quality. This can be accomplished through formal rulemaking or other means.

4) Define the concept of "no net loss" of wetland functions and values.

5) Establish mandatory training and certification programs for private consultants who perform wetland delineations.

6) Consider establishing a comprehensive wetlands permit program that controls all activities adversely affecting wetlands rather than continuing to use the section 404 program for this purpose.

7) Consider new federal legislation being worked on by many of my colleagues and myself, similar to last year's H.R. 5968 that would, among other things, define geographic areas and types of activities subject to the new regulatory program, categorize wetlands according to their ecological significance, and place increased administrative responsibility with the U.S. Army Corps of Engineers.

Because federal wetland regulations have had a significant impact on virtually every state in this nation, I have invited a number of my colleagues to testify before the Small Business Committee today so they would have the opportunity to provide anecdotal information, make recommendations, and illustrate just how widespread this problem is. Regardless of geographical location, small businesses are being overburdened and development hampered as a result of costs and delays associated with the wetland regulatory process.

It is my hope that through this hearing process, we can help to achieve a balanced, rational solution to the concerns expressed over federal wetland regulations. To assist in sorting out some of these problems, I have asked representatives from the federal agencies principally responsible for governing these wetland regulations to testify before the committee today. Those distinguished individuals are as follows:

Dr. G. Edward Dickey, Acting Assistant Secretary of the Army (Civil Works), Department of the Army;

LaJuana Wilcher, Assistant Administrator for Water, Environmental Protection Agency; and

James Mosely, Assistant Secretary for Natural Resources and Environment, U.S. Department of Agriculture.

Do any Members wish to make statements?

Statement of the Honorable Joseph M. McDade, Ranking Minority Member, Committee on Small Business, U.S. House of Representatives, regarding the Effects of Wetlands Protection Regulations on Small Business

January 30, 1991

****

Mr. Chairman, I commend you for holding this series of hearings to examine the effects of wetlands protection regulations on small business.

Concern for the future of the environment has become paramount. There has been a resurgence of interest in protecting the environment and preserving our natural resources. Clean air, clean water, and clean land, this is the legacy of every generation and the responsibility of every American. Gifford Pinchot, who founded the Forest Service and lived in my district, believed strongly in the concept of conservation and wise stewardship of natural resources. But he also believed that protection and preservation must exist side by side with the wise use and development of land and natural resources for the progress of society; that the need for protection was no more superior to the need for development than the need for development was inferior to the need for protection. He recognized that both were legitimate but competing interests, and that a comfortable balance needed to be found between the two. I believe a balance between environmental concerns and development interests can and must be found.

As a Member of the Subcommittee on Interior Appropriations who has a strong environmental protection record and as a Member with considerable wetlands in his district, I am aware of the legitimate but competing concerns in this area. During my career in Congress, I have heard from constituents representing both the environmentalist perspective and the small business viewpoint. I can find no one on either side of the issue who is opposed to protecting the environment or who does not concede the necessity of development. Both favor a balancing of the interests; both favor a cooperative rather than a confrontational approach and solution to their problems.

However, I'm not sure that the need for balance between these two interests is what is at issue here. My sense is that it concerns a more fundamental question of government overreach and overstepping. It involves the promulgation of policy outside the regulatory and rulemaking framework prescribed by law. It involves the use of interagency guidelines which, while giving the appearance of bona fide regulations and having the effect, do not indeed have the force of law. These guidelines which must be followed before a permit can be issued are causing undue financial hardship and imposing onerous burdens on small businesses. In the course of these hearings, we need to look at how these regulations came about and by what means, determine and evaluate their cumulative impact on small business, and explore alternatives and remedies that will maintain the proper balance between protection of wetlands and the need for economic development.

SILVIO O. CONTE
FIRST DISTRICT, MASSACHUSETTS

COMMITTEE ON APPROPRIATIONS
RANKING REPUBLICAN MEMBER
SUBCOMMITTEES:
LABOR—HEALTH AND HUMAN SERVICES—EDUCATION
TRANSPORTATION
LEGISLATIVE
EX OFFICIO MEMBER OF ALL SUBCOMMITTEES

COMMITTEE ON SMALL BUSINESS
SUBCOMMITTEE ON PROCUREMENT, TOURISM, AND RURAL DEVELOPMENT

MIGRATORY BIRD CONSERVATION COMMISSION

BOARD OF REGENTS
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Statement of
the Honorable Silvio O. Conte
Committee on Small Business
Hearing on Wetlands Protection Measures
January 30, 1991

Mr. Chairman,

I want to thank you for calling this hearing on two subjects that have been important to me for over twenty-five years: small business and wetlands conservation. Since 1965 I have been a member of the Committee on Small Business and a member of the Migratory Bird Conservation Commission.

Small business and our wetlands share some interesting similarities, they are both widely unappreciated and their importance is vastly underestimated. Small business does most of the employing and job creation in this country and wetlands support a staggering array of wildlife, fisheries and other resources including nearly a third of the nation's endangered and threatened species.

In addition, both wetlands and small business are threatened, one by the encroachment of development and industry, and the other by the encroachment of government regulation. That is what brings us here today. Unfortunately, while small businesses can petition and innovate to survive, the wetlands cannot.

Since the European settlement of North America over half of the wetlands on the continent have been destroyed. Between the mid-1950s and the mid-1970s about 11 million acres of marshes and swamps were destroyed, an alarming annual loss averaging 458,000 acres.

I have worked over the years to help stem this attrition, most recently by modifying the provisions of the "Swampbuster" Act to clear up its provisions and enhance its enforcement. I hope this hearing can produce similar results. I believe that the problems in Section 404 of the Clean Water Act can be remedied with some commonsense liberally applied by Congress, the agencies, and small business. By working together and listening we can help both small business and the wetlands conservation effort and protect the most important sections of our economy and our environment.

STATEMENT OF REPRESENTATIVE
NORMAN SISISKY
FOR THE HOUSE SMALL BUSINESS COMMITTEE HEARING:
"THE EFFECT OF WETLANDS PROTECTION MEASURES ON THE SMALL BUSINESS COMMUNITY"

THANK YOU, MR. CHAIRMAN. I WANT TO COMMEND YOU FOR HOLDING THIS HEARING TODAY AND FOR PROVIDING THE COMMITTEE AN OPPORTUNITY TO TAKE A CLOSER LOOK AT THE EFFECT OF FEDERAL WETLAND REGULATIONS ON THIS COUNTRY'S SMALL BUSINESSES.

FIRST OF ALL, MR. CHAIRMAN, I WANT TO STATE FOR THE RECORD THAT I FULLY SUPPORT EFFORTS TO ADEQUATELY PROTECT OUR NATION'S WETLANDS. IN FACT, AS A MEMBER OF THE CONGRESSIONAL SUNBELT CAUCUS WETLANDS TASK FORCE, I BELIEVE IT IS IMPORTANT TO PRESERVE SUCH ECOLOGICALLY VALUABLE AREAS. HOWEVER, I ALSO FEEL THAT WE NEED TO HAVE A WETLANDS POLICY WHICH WILL NOT PRECLUDE REASONABLE AND NECESSARY PROJECTS FROM MOVING FORWARD.

SINCE BECOMING A MEMBER OF CONGRESS IN 1983, I HAVE ALWAYS SOUGHT TO MAINTAIN AN ENVIRONMENTAL POLICY WHICH BALANCES PROTECTION OF OUR NATIONAL RESOURCES WITH RATIONAL ECONOMIC GROWTH. UNFORTUNATELY, WE MUST RECOGNIZE THAT AS A RESULT OF THE REVISED FEDERAL POSITION ON WETLANDS, WE MAY SEE A TREMENDOUS DEVALUATION OF A GREAT DEAL OF PROPERTY IN TIDEWATER, VIRGINIA ... AND IN PARTICULAR THE FOURTH DISTRICT WHICH I REPRESENT.

AS YOU MIGHT EXPECT, I HAVE RECEIVED MANY LETTERS AND TELEPHONE CALLS EXPRESSING CONCERN ABOUT THE CHANGES IN THE FEDERAL REGULATION OF WETLANDS. AS A MATTER OF FACT, DURING JUST ONE WEEK LAST YEAR, THE ECONOMIC DIRECTORS OF THE FOUR LARGEST MUNICIPALITIES IN MY DISTRICT, IN WHICH OVER 75% OF MY CONSTITUENCY LIVES, URGENTLY REQUESTED MY ASSISTANCE IN DEALING WITH THE WETLANDS PROBLEM. IN ADDITION, NUMEROUS SMALL BUSINESSES HAVE CONTACTED ME TO COMPLAIN ABOUT UNCERTAIN REGULATIONS.

CLEARLY, THESE RECENT CHANGES IN THE DEFINITION OF WETLANDS HAVE CAUSED A GREAT AMOUNT OF CONFUSION. AND IF THE INQUIRIES I HAVE RECEIVED ARE REPRESENTATIVE OF WHAT IS HAPPENING ACROSS THIS COUNTRY, IT IS IMPORTANT THAT WE IN CONGRESS -- THE REPRESENTATIVES OF THE PEOPLE -- MAKE SURE THAT THE FEDERAL AGENCIES INVOLVED DON'T LOSE TOUCH WITH THE HUMAN FACTOR.

THIS IS WHY I AM SO GLAD THAT CHAIRMAN LAFALCE IS HAVING THE COMMITTEE EXPLORE THIS ISSUE TODAY. I AM CONFIDENT THAT BY WORKING CLOSELY WITH THE APPROPRIATE FEDERAL AGENCIES, WE WILL FIND THE QUICKEST AND SUREST WAY TO ASSIST SMALL BUSINESSES IN THIS MATTER ... AND TO CLARIFY FOR THEM THEIR ROLE IN WETLAND PROTECTION.

# # #

OPENING STATEMENT OF REPRESENTATIVE JAN MEYERS
SMALL BUSINESS COMMITTEE HEARING
"THE EFFECTS OF WETLANDS PROTECTION MEASURES ON THE SMALL BUSINESS COMMUNITY"
JANUARY 30, 1991

Mr. Chairman, I would like to thank you for focusing the attention of this Committee on the problems many small businesses, farmers, and individuals have encountered under various State and Federal regulations protecting wetlands. While I am a strong supporter of protection for wetlands, which are so important for the perpetuation of wildlife, flood control, reduction of erosion, and filtration of water supplies, I am also very sympathetic to the need for clarity in the regulations governing definition and use of these lands.

Fortunately, my district has not been encountering the severe problems with issuing permits and resolving conflicts between state and federal regulations as obviously exist in the Chairman's District, and many of my distinguished colleagues' districts. However, this does not mitigate my concern for clear regulatory guidance in this area. Establishing regulations for the protection of our wetlands which achieve balance between environmental and economic concerns is of vital interest to all of our communities.

I look forward to the testimony of my colleagues in learning the particular problems of their districts, and of those agencies represented here today who have the monumental task of interpreting and enforcing these regulations.

CONGRESSMAN DAVE CAMP
STATEMENT BEFORE COMMITTEE ON SMALL BUSINESS
January 30, 1991

Mr. Chairman, I am pleased to be here today as a new Member of the House Committee on Small Business. I look forward to working closely with Members of the Committee, particularly my fellow colleagues from the state of Michigan, on small business issues. The assignment to the Committee will enable my Mid-Michigan district, which is largely rural and agricultural, to have a voice on these issues. I deeply appreciate this opportunity to help expand the opportunities and stimulate economic growth for small business in my congressional district and across the United States.

The wetlands protection issue, which the Committee is holding hearings on today and next week, affects many areas of my district a great deal. My constituents have expressed an interest in understanding the issue of wetlands and its impact on their businesses. It is important that we continue to work towards solutions that address the concerns of the small business industry, while taking into account our environmental priorities. I hope that as a result of this hearing we are better able to examine and deal with the caveats we face on this most serious and important matter.

Again, I look forward to working with my fellow colleagues as the Committee begins its work in the 102nd Congress. Thank you.

JAMES H. BILBRAY
1st District, Nevada

Committee on
Armed Services

Committee on
Small Business

Select Committee
on Aging

Congress of the United States
House of Representatives
Washington, DC 20515

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STATEMENT OF THE HONORABLE JAMES H. BILBRAY BEFORE THE COMMITTEE ON SMALL BUSINESS

January 30, 1991

The purpose of wetlands protection measures is to provide a clear and comprehensive national mandate in order to protect the remaining wetlands areas of the United States. Historically I have been committed to the increased protection of wetlands. I supported the Memorandum of Agreement between the Army Corps of Engineers and the Environmental Protection Agency (MOA) regarding wetlands mitigation. This landmark agreement establishes a national wetlands policy. I am extremely interested in the subject of this hearing because the "no net loss" approach to wetlands protection need not be viewed as incompatible with the concerns and needs of our country's small business community.

It is my belief that many small business owners are eager to interact in a regulatory climate conducive to the protection of wetlands. This hearing may serve us well by clarifying the regulatory demands that currently ensnarl the small business community. It is important that Congress makes clear its intent with respect to the plethora of wetlands laws, guidance manuals, and interagency agreements so that the small business community can better comply with the regulations and remain in business.

I congratulate the Chairman and my other colleagues on the Small Business Committee for holding this series of hearings on the effect of wetlands protection measures on the small business community.

ROBERT L. LIVINGSTON
1st District, Louisiana

APPROPRIATIONS COMMITTEE
Subcommittee:
DEFENSE

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Congress of the United States
House of Representatives
Washington, DC 20515

January 29, 1991

The Honorable James Hayes
U. S. House of Representatives
Washington, D.C. 20515

Dear Jimmy:

Please submit the attached testimony to the Small Business Committee on my behalf.

I appreciate your efforts in this area and I stand ready to work with you to develop a reasonable approach to wetlands regulation.

Thank you for your assistance in this matter.

Sincerely,

ROBERT L. LIVINGSTON
Member of Congress

TF

Enclosure

Testimony Submitted by Congressman Bob Livingston
to the House Committee on Small Business
January 30, 1991

I commend the Chairman, Mr. LaFalce, and the Republican Chairman, Mr. McDade, for holding this hearing to examine the problems associated with the federal laws protecting wetlands.

I am very supportive of efforts to save our ecologically valuable wetlands. However, I am concerned that in our worthwhile efforts to save the swamps, bogs, and marshes along our coasts, we have installed a policy that restricts the legitimate rights of landowners and neglects to differentiate between vital wetlands and wetlands of minor or insignificant value. The current wetlands policy takes half of our state out of commerce without any reimbursement for the property owner. This approach must be revised.

It is entirely appropriate for this hearing to be conducted by the Committee on Small Business. The Federal wetlands laws are having a devastating effect on Louisiana businesses. I have met with many concerned landowners, government officials, homebuilders, farmers, and business owners. All groups are concerned by the wide effect of wetlands regulation on their pursuits.

Their problems, for example include a 20 acre tract of land bounded on three sides by established subdivisions and a major highway on the other. This area is completely absent of tidal flow from any waterway. It has, nevertheless, been classified as wet and is currently tied up in the bureaucratic 404 permit process. Chances of it being permitted appear to be very slim.

A developer was ordered to cease and desist construction after investing $600,000 into drainage, street and sewerage improvements for a proposed subdivision. His tract of property was adjacent to a fully developed hospital, was over 20 feet above sea level (a rarity in south Louisiana), and had no tidal flow from any rivers, swamps or lakes. Today, this property still sits in limbo.

Another horrendous example is the story of a property owner trying to divest himself of property to settle a tax lien. This property was classified as wet and naturally frightened away any potential purchasers. The solution to for the settlement of the tax lien was the sale of every single tree on the property to lumber interest. This was done in the name of "no net loss."

These examples are representative of the crisis facing Louisiana. The Federal Manual for Identifying and Delineating Jurisdictional Wetlands must be revised to differentiate between high value wetlands and those with little or no value as functioning wetlands. Approximately 53% of Louisiana has been designated as wetland by the Manual. Many of our parishes are now wholly comprised of lands classified as wetlands -- including large stretches that were long ago reclaimed and converted to commercial and residential uses.

Ironically, in the zeal to ban development, we have neglected the laudable goal of saving our eroding wetlands. Louisiana is losing her wetlands for a number of reasons: saltwater intrusion, subsidence, coastal erosion, construction of flood control projects, natural disasters, as well as man's development of the land. Since a number of these are naturally occurring, proposals to leave the wetlands to the devices of Mother Nature are simply not the answer. Even if Louisiana were to suspend all development, we could still not meet the "no net loss" goal.

Our revised wetlands policies must promote protection, conservation, and restoration. Landowners must be given incentives to protect and restore wetlands, instead of unconstitutionally "taking" their property without just compensation. Our policies must respect the rights of landowners and provide incentives for landowners to protect their wetlands. Clearly, the current policy of massive, uncompensated "takings" must be revised.

Therefore, I commend the work undertaken by the Small Business Committee, and I encourage the Committee to favorably consider the legislation introduced by my Louisiana colleague, Representative Jimmy Hayes. His bill acknowledges the importance of protecting high value wetlands and provides reasonable protection and compensation to landowners. This is the responsible and reasonable approach that Congress must follow.

Thank you again for the opportunity to submit this testimony.

Statement of Congressman Richard Baker, Member
Committee on Small Business
Hearing on
"The Impact of Federal Wetland Regulations Upon Small Business"
January 30, 1991

Mr. Chairman: There is clearly a need to reevaluate federal wetland protection policies. The current regulations result in a system that works to the detriment of the wetlands intended to be protected. I am most concerned about the impact of regulations governing the use of wetlands on small business enterprise, as well as individual activities on private property.

Certainly, a comprehensive wetlands management and protection program is necessary. Although "no net loss" is a commendable policy goal, it is important to remember that an overly broad definition of wetlands will have an unintended detrimental effect on customary and regular business activities.

The Federal Manual for Identifying and Delineating Federal Jurisdictional Wetlands is demonstrative of this problem. These federal guidelines regarding what must be protected as a wetland have practically stifled all development within Louisiana's infrastructure and have had an adverse affect on state and local governments. For example, the federal regulations place a substantial burden on the landowner who must determine the status of wetlands before making any alterations to their own property. If any alteration is made, and later found to be in a prohibited area, not only is the landowner responsible for reestablishing the prior natural condition, but will be subject to substantial penalties as well.

Within any new regulatory scheme, a better system is necessary to control the time limits for making administrative decisions. I recommend that only one federal and one state agency be responsive to any landowner who submits a permit for approval of regulated activity. Mandatory time limits should also be established so that no individual waits longer than 30 days and no business waits longer than 90 days for an administrative determination. After such waiting periods, these individuals and businesses should then be able to proceed without the threat of subsequent civil or criminal penalties. Eliminating retroactive punishment and ensuring the speed of regulatory response must be achieved.

Because the scope of regulatory activities has dramatically expanded beyond the original congressional intent, this Congress must proceed to ensure that we establish a comprehensive wetlands permit program with responsive controls. Legitimate, environmentally sound business practices, and activities of responsible landowners, must be permitted without unreasonable government interference.

TESTIMONY OF REPRESENTATIVE HELEN DELICH BENTLEY BEFORE THE COMMITTEE ON SMALL BUSINESS

Dear Mr. Chairman:

Thank you for allowing me the opportunity to address the Committee on Small Business regarding increasing governmental attention to natural resource issues and in particular, those laws pertaining to wetlands protection.

Much like the rest of the country, Maryland has seen some rather substantial efforts to improve the environment, often resulting in the enacting of legislation. The increased attention to protecting our natural resources unfortunately has created a great deal of confusion for everyone from the homeowner to the developer.

The importance of protecting our natural resources is no doubt a top priority and a necessity for our continued health and well being. I have found that the problem is not with the intention of protecting our natural resources. Instead the problem seems to be in the confusion and frustration many constituents feel because of their uncertainty over what they perceive to be a maze of bureaucratic red tape and ambiguity in laws regarding wetlands.

The primary dilemma which many of my constituents have expressed concern with is related to a delay in approval for projects. In several worse case scenarios, I have received communications from marine contractors, general contractors and developers regarding layoffs of employees because they do not have the appropriate permits to begin projects.

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The 2nd Congressional District of Maryland is indeed a growing area and I have been concerned that a backlog of paperwork could result in unnecessary delays in many projects possibly hindering local economic growth both hear in Maryland and throughout the country. However, I have found a decline in the number of letters and calls from constituents regarding delayed permit applications.

In my most recent communication with the U.S. Army Corps of Engineers I am proud to say that the Corps of Engineers Baltimore District has taken significant strides to remedy such problems as backlogs and has developed a close working relationship with the state government to lessen confusion over application procedures.

Despite inadequate funding, the average number of permit requests has not decreased and number over three hundred a month. Yet, the Corps of Engineers has been able to reduce evaluation time by thirty days or more and has cut the number of pending request in half since August 1990.

Unquestionably, adequate staffing is a top priority. Although additional staff has been hired, it would be incorrect to cite those additions as solely responsible for recent improvements. It takes two years to train new employees and six months before they can begin to understand the position. Improvements in performance surely will result from the additional staff but have had a limited affect thus far because of the time required to learn the job. Thus the importance of staff and its retention is apparent.

A streamlining of operations and better coordination of work with the State is largely responsible for the improved processing. Joint procedures with the State Department of Natural Resources (DNR) have included a joint application form which is returned to the DNR with copies sent to all DNR permit departments and the Army Corps. Within forty-five days of receiving the permit application, either the State or Army must contact the permittee as to whether the permit is complete and whether any additional permits are needed. Joint procedures such as the newly created Maryland General Permit for non-tidal wetlands undoubtedly will play a vital role in improving the backlog of permit applications and lessen confusion among applicants.

In addition, communication between the State and Army has been improved significantly as a new computer network between the two currently is being implemented. The ability to communicate via computers will allow for the instant referral of information and correspondence doing away with delays related to mailing. The increased attention given to cooperation and coordination between the State of Maryland and Army undoubtedly is a significant accomplishment and one which hopefully is being duplicated throughout the United States.

It should be noted that familiarization with the application procedure and its preparation by the permittee also has contributed to lessening delays. Fortunately, a higher percentage of applications submitted today are complete as compared to previous years.

Despite the truly remarkable accomplishments of the Corps of Engineers at the Baltimore District and elsewhere, adequate funding and proper staffing are still a vital necessity. The Baltimore District and other Army Corps of Engineers Offices throughout the United States have taken tremendous strides to improve existing procedures and have shown a commitment to serving the interest of all involved and deserve equal consideration when funding and adequate staffing is considered.

Mr. Chairman, I am proud to report that the U.S. Army Corps of Engineers has overcome a great deal of problems through its own resourcefulness and innovation. Its hard work and dedication has resulted in a marked improvement in the processing of permits and overall efficiency. However, I continue to stress that such efforts can go only so far. Without appropriate funds or staff, improvement is limited. If we are to consider the importance to economic growth and development, we must provide the Army Corps of Engineers with the means with which to carry out its work.

Congressman Don Edwards

House Small Business Committee

Thank you, Mr. Chairman, for allowing me the chance to express my views on wetlands regulations. Being a representative from the San Francisco Bay area, I am very familiar with the conflict that often exists between wetlands preservation and development projects.

I would like to stress that I am very sympathetic to the needs of small business. They are an important part of our economy, encouraging entrepreneurship, creating jobs and maintaining the integrity of our communities. However, it is important to realize that wetlands have a positive impact on our communities that is often overlooked. A good example of this is the San Francisco Bay National Wildlife Refuge, an urban wetland covering more than 18,000 acres. It has contributed to the natural beauty of the Bay area, which in turn has been a major factor in attracting business and promoting the steady growth of the area.

50 years ago, wetlands were considered worthless swampland, made more valuable through drainage and filling. In recent years however, we have come to realize

what an important role they play in the fragile natural cycles. This realization was too late to prevent serious losses of wetlands nationwide; more than half of the original wetlands have been lost. In the San Francisco Bay area, we have suffered the disappearance of more than 82 percent of our original wetlands.

Most people are unaware of the many unique purposes that wetlands serve. To name the most visible and spectacular, millions of migrating birds depend on wetlands during their seasonal travels. At least two-thirds of North America's bird species use wetlands as a source of food, and as resting and/or breeding grounds. Wetlands are also home to a variety of mammals and reptiles that need the lush aquatic plants and sea creatures which are found in the mud and shallow waters.

Of course, fish are also dependent on wetlands for survival. The unique intermediate saline quality of wetlands serve as a home to young marine fish and shellfish in their early stages of growth. Salmon must spend weeks in coastal estuaries as they undergo the transformation from freshwater to saltwater creatures. About two-thirds of our commercial fish harvest is made up of species that depend on a wetlands environment during some stage of their lives.

But wetlands are not only important to our wildlife and fisheries. It is no coincidence that wetland areas are so heavily populated. Because they are so rich in animal and plant life, they have ideal life sustaining properties. Wetlands serve an important role in restoring our groundwater supplies and repairing water quality. In recent years, our water tables have been seriously declining without wetlands to help replenish them. Impurities from natural and industrial sources are also removed through the efficient biological filters of wetlands.

There is also a greater risk involved in building on filled wetlands. The Loma Prieta earthquake of October 1989 caused the greatest amount of damage to those developments which were built on former marshlands. For California, with its increased risk of earthquakes, this is particularly relevant.

Those involved in small business have a right to be treated fairly as they make plans for development projects. It is true that the system, with its complex regulations and paperwork requirements, can be difficult to navigate. However, my experience has always been that the U.S. Army Corps of Engineers does a careful and professional job in fulfilling its mandate. Unfortunately, they are hampered by a shortfall in staffing and other resources. Thus, while the Corps does its best to process permits in a timely manner, the system is strained by inadequate funding.

The solution to improving the permitting process lies in getting Congress to work with the Executive Branch to ensure that the Corps receives the funding it needs. This will enable them to do their job, and not inconvenience those who are attempting in good faith to comply with federal regulations.

If we allow our wetlands to disappear, the damage to our environment and quality of life will be irreversible. We need to keep long-term goals in mind as we deal with this issue. We should streamline the permit process, clarify the guidelines the Corps and developers must follow, commit more resources to this cause, and promote the harmonious interaction between the small business community and our unique and valuable wetlands.

JERRY HUCKABY
5TH DISTRICT, LOUISIANA

COMMITTEE ON AGRICULTURE
CHAIRMAN—SUBCOMMITTEE ON
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January 10, 1991

Testimony of Congressman Jerry Huckaby prepared for Public Hearing before the United States House of Representatives Committee on Small Business

Gentlemen, today I am offering comments to submit for the record my concerns about the current Federal wetlands protection policies and their impact on small businesses, developers and farmers. As the Army Corps of Engineers and the Environmental Protection Agency are becoming increasingly aware, the Federal Manual for Identifying and Delineating Jurisdictional Wetlands has somehow administratively brought unnecessary and unjust hardship upon the private landowners, small businesses, developers, and farmers in my State of Louisiana as well as the entire nation.

Current estimates by the Soil Conservation Service suggest that the adoption of the four agency delineation manual extended Section 404 jurisdiction to possibly 30-60 million acres nationwide of "wetlands" that was not previously within the jurisdiction of the Corps of Engineers. This questionable administrative decision actually used Section 404 of the Clean Water Act to reclaim acreage not previously considered jurisdictional wetlands by the Corps. Clearly this was not the intent of the Congress to use Section 404 as a mechanism to reclaim this mass of privately owned land for the purpose of creating new wetland areas. This clearly even goes beyond the "no net loss" concept that officially was the motivation for the administrative decision to adopt the Manual.

In my discussions with the four agencies about this expanded authority, I have repeatedly been informed that there was no new authority nor any new definition of a jurisdictional wetland but rather a clarified definition that had been in use for years. I contend that if this were indeed true, there would not be an additional 4.2 to 4.8 million acres in Louisiana alone that are now considered "wetlands" under Section 404 that were not considered "wetlands" the day before the Manual was signed.

Clearly, there was a change in the wetlands delineation process as a direct result of the Manual. As you well know, there are three parameters used in delineating jurisdictional wetlands. These are the presence of hydric soils, the number of days per year that water is standing on a prospective "wetland", and the presence of hydrophytic vegetation. In the past, if a piece of property met **all three** parameters, then it would be considered a jurisdictional wetland. The new "definition" uses the same three parameters but it changes the third parameter to capable of supporting rather than presently supporting hydrophytic vegetation. The new Manual goes yet one step further by then allowing field personnel to delineate jurisdictional wetlands on the basis of any **one** of the three parameters instead of all three.

This is a fundamental flaw in reasonable and accurate wetlands delineation. The presence of just any one of these parameters could not possibly allow the accurate scientific delineation of "valuable" wetlands that we all agree should be regulated by Federal wetlands policy. This flawed definition "creates" millions of acres of "wetlands" that simply do not have any ecological, environmental, or wildlife habitat value. As a result, municipalities have already begun to see an erosion of their tax base and economic development has been squelched to "protect" wetland areas that do not even have any real function and value as wetlands.

In sum, the agencies, in an attempt to be all inclusive and not omit any land that had ever been wet, simply went too far in covering these areas that do not have any value as a wetland. The agencies should go through the proper public hearing procedure and the delineation manual should be revised to assure that those lands that do not support wetland plants because they were converted for farming or other uses are not included as jurisdictional wetlands. We must seek a reasonable balance that will allow sustainable development without endangering legitimate wetland areas with true function and value.

Mr. Chairman, I thank you for this opportunity to submit testimony to you for the record on this issue of such importance to the State of Louisiana as well as the entire nation. I look forward to working further with you on this issue as we begin debate on the reauthorization of the Clean Water Act this Congress. Thank you.

BILLY TAUZIN
Third District, Louisiana

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STATEMENT OF CONGRESSMAN BILLY TAUZIN TO THE COMMITTEE ON SMALL BUSINESS ON THE IMPACT OF WETLANDS REGULATION ON SMALL BUSINESSES

JANUARY 30, 1991

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE, I wish to express my appreciation to the committee for holding this hearing and for calling attention to a misdirected regulatory program that has the potential for eliminating many small businesses in my district. When Congress enacted the Federal Water Pollution Control Act in 1972, I am sure that the members of Congress at that time had no idea nor intent that this act would become a vehicle for a massive taking of private property by the federal government.

Section 404 of that act authorizes the Secretary of the Army to issue permits for the discharge of dredged or fill material into the navigable waters of the United States at specified disposal sites. This general authorization to issue permits for the discharge of dredged or fill materials has been expanded by the courts and the Corps of Engineers to include not only "navigable waters of the United States" but millions of acres of private lands which may be periodically inundated with water but which are otherwise dry. The regulations which cover the conduct of activity on wetlands derive their authority from this short statement requiring permits for the discharge of dredge and fill material.

Congress has not specifically authorized the federal government to regulate the use of wetlands. The four federal agencies which have been regulating wetlands use have gone far beyond the original intent of the statute. It is past time for Congress to speak to this issue and to establish a wetlands policy which accomplishes the laudable goal of protecting our vanishing wetlands, but which recognizes that most wetlands are privately owned. We must undertake to insure that the Constitutional protections afforded to the ownership of private property in this country are preserved while seeking to conserve and replenish our wetland treasures.

I want to make it clear that I favor the protection of true wetlands which serve a valuable wetlands function. However, during the past year we have been shocked by the policies adopted by the Corps of Engineers and EPA, which expand the definition of wetlands to include millions of acres of land which we have historically and practically believed to be dry and usable for many purposes, such as farming, housing, industry, and other commercial uses. In addition, to greatly expanding the definition, the Corps and EPA adopted a policy requiring mitigation for any land which is used. Both of these far reaching policies were adopted, unfortunately, without going through the rule making procedures provided in the Administrative Procedures Act and without allowing for full and fair public comment.

This mitigation policy allows for certain uses of these lands, but sometimes exacts a high price by requiring the expenditure of funds for mitigation projects. Mitigation projects have included requirements that the land owners purchase and rebuild wetlands in other areas to replace the wetlands being lost.

This sounds at first glance like a laudable goal. However, it fails to consider the economic impact on regions of the country such as Louisiana, which contain millions of acres of land which have recently been reclassified as wetlands. This includes most of south Louisiana which is were the majority of our population lives. Therefore, all economic development in the southern part of our state must factor in the added cost of the permit process and mitigation projects. The Corps of Engineers now proposes to charge exorbitant fees for telling you whether your property is a wetlands and then for processing the permit application. This means that individuals and small business are priced out of the market for the use of land in our area. In it conceivable that this policy, if carried out, could bring our small business activities to a halt.

This new policy as presently applied will mean the redistribution of wealth and resources from those areas surrounded by wetlands to those areas where no wetlands exists. For my district, this means economic stagnation and the loss of a tax base from which to derive funds for basic public services, such as schools, roads, medical care, and other infrastructure needs.

Therefore, to address this complex and difficult issue, I have in prior Congresses introduced several bills to attempt to bring about a rational approach to wetlands protection. I have been a champion of wetlands protection since the mid 1970s. In an effort to deal with this issue, I and my colleagues, Congressman Jimmy Hayes and Congressman Tom Ridge have been working for many months to draft a wetlands protection bill that addresses the issues of wetlands values and private property protections. I believe that if we are to find a satisfactory means of protection of these wetlands, we must involve the owners of these lands in that effort by providing incentives for wetlands protection, while insuring that the constitutional rights of the landowners are also protected. I do not believe that any member of this Congress would favor allowing our government to take private property from any individual without just compensation. This bill seeks to address this difficult and complex issue.

This bill is the result of many meetings and discussions among members of Congress from states with substantial wetlands resources. We are from both parties, we are from north and south, east and west, and we represent districts with many diverse interests. Our one common concern is that all of us wish to protect wetlands. However, we are witnessing the enactment of new, far reaching wetlands policies by unelected individuals in the federal bureaucracy without adequate opportunity for the public to participate in the process. We believe that the Congressional role in setting national wetlands policy has been usurped by the bureaucracy with the assistance of the federal courts. We believe that it is the role of this Congress to set wetlands policy for this country and that is what this bill does.

This bill provides a new strict regulatory program to protect the true wetlands without unduly restricting the use of those lands which have some wetlands characteristics, but which have little or no wetlands values and functions. Wetland values and functions include use of the wetlands for wildlife habitat, fisheries propagation, hurricane protection barriers, water quality management, recreational activities, and flood protection. However, the bill contains new and creative solutions to many of the valid criticisms of the existing wetlands program.

Under our bill, wetlands which meet the scientific and technical criteria for wetlands will then be further classified into wetlands categories. The most valuable wetlands which require the greatest protections and where activities of man should be the most restricted will be classifed as Type A wetlands. Those wetlands which have many of the same values but which will tolerate some activities as long as mitigation is carried out will be classified as Type B wetlands. Those wetlands which have little or no wetland values and which are already highly developed will be classified as Type C wetlands. Type C wetlands meet the scientific test for wetlands, but they don't meet what many of us call the "common sense" test for wetlands. Therefore, these wetlands will be subject to very little regulation.

One important feature of the legislation will be to provide for advanced mapping showing how land within a given area will be classified. This advanced mapping is intended to provide notice to potential landowners that they may be purchasing a wetland. It is a tragedy to hear a landowner tell of saving for or borrowing money for the purchase of property to be used for some important project, only to find out that the land cannot be developed or that a wetlands permit is required. The permit process is very time consuming and expensive and is frequently conditioned upon the construction of expensive wetlands mitigation projects.

One goal of the legislation is to insure a greater role for the general public in the development of wetlands policy. Therefore, the Corps must go through the rulemaking process in developing both the definition of wetlands and the permitting process. Also the public will be given an opportunity to comment on the advanced mapping. I believe a strong public involvement in this process will be one of the significant provisions of the bill.

Another concept of the legislation is to force our government to come to terms with the impact of wetlands policy on private landowners. If the wetland is so valuable that it is classified as a Type A wetland, the bill gives the owner of the land the option of seeking compensation from the government under the takings clause of the U.S. Constitution. When land is classified as a Type A wetland, it will be so well protected that it's use will be severely limited. Therefore, the value to the landowner is so diminished that it will constitute a taking of the property. Therefore, we believe that the landowner should, if he desires, be able to receive compensation in return for surrendering title to the land. This is not intended to be used to force landowners to leave their land. However, we must not allow our government to expropriate lands for use as wetlands without compensating the landowner.

The bill continues those activities presently exempt from Section 404, such as farming and continues the present policy of exempting prior converted croplands. It will also allow the delegation of the program to the states.

I urge the members of this committee will join in the effort to develop a sensible and compassionate approach to protecting our nation's wetlands. We believe this concept can achieve that goal.

STATEMENT OF
THE HONORABLE DON YOUNG
BEFORE THE SMALL BUSINESS COMMITTEE
JANUARY 30, 1991

I commend you for scheduling this hearing to investigate Government regulations of wetlands effect on small business. It is my firm belief that these regulations are strangling growth and entrepreneurship for small businesses, local governments, and individuals throughout the country.

In my home state of Alaska, it is estimated that over 60% of all lands are classified as wetlands. When you subtract either rock or glacier ice, you find nearly 75% of developable lands are wetlands. Throughout most of Alaska one is required to have a Section 404 permit to do almost any construction including building a garage. The average permit processing time is 143 days. As Alaska has a construction period of three to four months per year, this means that unless a permit application is received before April 1st, the project will have to be delayed to the following year. This significantly adds to costs and undermines Alaska's small business competitiveness in the world economy.

In light of a wetlands usage rate of under 5/100ths of 1 percent, most Alaskans find it difficult to understand the justification for the current punitive wetlands regulatory regime. To put this in perspective, we have an estimated 135 million acres of wetlands and have only disturbed about 500,000 acres statewide. Alaskans support the protection of critical habitat. However, there is no danger of adversely affecting waterfowl since Alaska has such an ample amount of wetlands that even massive additional losses will not put any pressure on those species which require wetlands as habitat.

The goal of wetlands protection and enhancement is one that we all support. Unfortunately, the current regulatory regime under Section 404 of the Clean Water Act has failed to protect the best of the nation's wetlands habitat, while providing a regulatory nightmare for private property owners, small business, and local governments. In favor of their own narrow view of environmental protection, an overzealous bureaucracy has expanded the regulatory authority and discarded the rights of property owners. This situation must be changed.

In addition, the United States settled claims with the Alaska Natives by granting them title to some 44 million acres of lands. The value of these lands is seriously being impaired, and the intent of the Alaska Native Claims Settlement Act therefore seriously undermined by this continual encroachment upon property rights. This can be said as well for the Sate of Alaska, which received a promise of 145 million acres to join the Union. Most of these lands are classified as wetlands and are therefore being made inaccessible or worthless because of the bureaucratic usurpation of fundamental rights.

The way to change this situation is for the Congress to overhaul the entire wetlands regulatory regime.

- The current system is entirely to cumbersome and allows E.P.A. and the Fish and Wildlife Service to avoid responsibility for their regulatory actions. One solution is to consolidate all permitting authority into one agency such as the Army Corps of Engineers.

- Any reform should recognize that private property owners have the right to use their property without excessively burdensome interference from the federal government. Currently, agencies behave as if the property owners have no rights except those the agencies see fit to grant them. This situation must be rectified or the "public benefits" of such protection at the expense of private and public lands owners should be compensated.

- Wetlands reform should recognize that all wetlands are not created equal and should be protected according to their relative value. The current system treats a one-third acre lot next to a homeless shelter in downtown Juneau, Alaska, the same as it treats a thousand acre prime marsh on the Pacific Flyway. This situation is unfair and makes very little policy sense.

- Another shortcoming of Section 404 is the excessive delay associated with the application process. Consequently, any reform should mandate that permit applications be processed in a timely manner with some sort of regulatory "hammer" for agencies that fail to meet the required timeline. Meaningful wetlands reform should encourage the states to assume control over the wetlands regulations with minimum interference by the federal government.

In an attempt to address the shortcomings in the existing system, I will join with Mr. Ridge, Mr. Hayes, Mr. Tauzin, Mr. Thomas of Georgia, and several others to reintroduce the "Wetlands Conservation and Management Act of 1991" (H.R. 5968 of the 101st Congress). This legislation would be the most effective method of addressing the policy shortcomings of the current system. This legislation has engendered a level of popular support from you, Mr. Anthony and several other prominent Members of the House. Your support, leadership and the insightful comments you have contributed to this process will make this legislation that much better when we reintroduce it early in the 102nd Congress.

Thank you again, for scheduling this important hearing and I look forward to working closely with you to improve our wetlands regulatory regime.

STATEMENT OF

CONGRESSMAN JIMMY HAYES

BEFORE

THE COMMITTEE ON SMALL BUSINESS

JANUARY 30, 1991

Mr. Chairman, I appreciate the opportunity to discuss with you and the other members of this committee the future of our nation's wetlands and the impact small businesses currently feel from the effects of existing federal law. While we spend a lot of time here in Congress debating many aspects of wetlands law, the consequences for the typical businessman or woman is all too often over-looked.

I do not want to take up the committee members' time by lobbying support for the comprehensive wetlands legislation that I have been working on with the assistance of several other members, but want to focus on several issues that I believe we must discuss because of their impacts upon the businesses that we each represent.

First and foremost, let's not kid ourselves in thinking that a debate over wetlands is an "environment versus big developers," or "private landowners versus the public good" type of issue. This topic has ramifications that go much further than that. For example, under the current regulatory scheme, towns in my district are poised to have a difficult time meeting their needs to provide garbage collection, books for schools and other community services due to wetlands. The reason: as more and more of my district becomes delineated as wetlands, landowners begin to recognize that they are paying taxes on properties that are valued due to their economic potential. With their ability to develop these tracts now restricted, if not outright prohibited, these landholders do not believe that they should pay taxes on property that is assessed over its actual potential.

Consequently, they challenge the local tax assessor's bill, win and pay fewer taxes. This in turn means that local governments who are already faced with rising service costs while faced with fewer resources now have an additional burden. This means that the county or parish schools suffer from not having books, equipment or other essentials, while other critical services normally provided by the community also suffer.

Nonetheless, these services will have to be provided some way and here is where small businesses enter the plot. With tax revenues down, I fear the the next revenue source that our communities will target to offset their losses will be their own local businesses. That will occur through either higher property taxes for existing businesses, increased sales taxes or some other type of revenue source.

While much of this scenario is speculative, I must point out that it has already begun to take place around the country. For example, in Pennsylvania, local courts have already stated that recently delineated wetlands properties should be revalued for tax purposes. In one case the tax assessed went from $1000 to literally $1. Multiply that type of change in a district like mine which is currently delineated as 90% wetlands and I will not just lose my seat in Congress due to coastal erosion, but will also be thrown out by enraged constituents who do not understand how a federal policy became so unreasonable and egregious.

In light of this type of situation, I believe that it is imperative for any new legislative reform package to include some provisions that recognize the domino-effect that private lands have in this debate and will work to provide a new system that is sensitized to those concerns. With 75% of the lands in question in private hands, this need is obvious.

If I may I would focus on a couple of strategies to head-off this problem. First, we must look for ways for landowners to be able to use their lands in an environmentally sensitive manner that would not preclude all use of their lands unless the properties in question are clearly national treasures that should not be touched. In short, we have to remove the current pressure to simply unload these properties in order to get out from underneath their tax liabilities.

Furthermore, we must give them some incentives for setting aside critical habitats by giving them credits for preserving those acres which could later be exchanged for the use and access to other, less important wetlands. This would allow them to retain some of the value of their properties without the landowner having to retrieve that value through the development and subsequent destruction of the habitat. For your information, the concept of mitigation banking, which draws on this idea, is one that I firmly advocate and is contained within my legislation.

A concept which I have not included in the legislation, but is one which we should discuss in a forum like this is the idea of instituting a program similar to a payment-in-lieu-of-taxes (PILT). For properties that the federal government has, in essence, "taken" through the regulatory process by disallowing any economic activities to proceed on that given tract, I believe the landowner should be compensated for his or her loss and the community should be attended to as well.

For example, if we are going to take some properties completely out of use, similar to setting them aside as a national refuge, shouldn't we reimburse the local government through the use of a "PILT" just as we do with properties incorporated into the refuge system? While I recognize the financial ramifications of such a plan, we must also recognize the implications of doing nothing to each of the communities you and I represent.

Small businesses will also carry the burden of simply trying to survive the costs of doing business in a wetlands region as well. To build a new distribution center, to open a new mall, to build a service station next to an interstate highway exit ramp will be developments that will all cost the small business owner thousands of dollars.

Overall, the costs will be staggering. For instance, the owner will have to pay thousands of dollars just to find out if they are locating in a wetlands and then pay huge application fees to Corps of Engineers just process their application. Furthermore, once the delineation has occurred, the owner will have to show why they must locate in that exact location and why they can not buy another tract somewhere else to carry-out their activities. Notice that no consideration is given in this current scenario for the ability to pay.

Once the owner proves why he or she must be in the location in question they will have to then work to minimize to the maximum extent achievable their impacts there. Those costs are undeterminable and uncapped at the current time. Add these conditions together and we have before us an extremely expensive system with no element focused on the impacts to business or local communities. Obviously, I believe that this must change.

While I will not go through my legislation at length at this point I would like to make a few comments and commend the bill to any member

here who is interested in the types of concerns I have outlined. I believe that whether you are an environmentalist, farmer or a developer, you must each recognize that the current system of wetland regulation does not work. As a nation, we continue to lose thousands of acres of wetlands each year while managing to tie the hands of our landowners and municipalities. How can we resist change? Clearly, no one is "winning" in this battle.

Consequently, in order to provide a balanced approach to the governance of our wetland resources, my bill includes several important new premises upon which a system should rest. Most importantly, we have worked to streamline the decision-making process so that, regardless of the outcome, the party involved can get a swift decision-- thus avoiding delays, which are the most fundamental complaint among our constituents.

Furthermore, the bill finally forces the federal government to recognize private property owners' rights to the value of their property. While we are currently seeing some relief in the courts on this issue, (referring to the Loveladies Harbor and Florida Rock cases), we need to clarify the law, once and for all, rather than leaving it up the individual whims of courts around the nation to decide whether takings are constitutional or not.

As we have discussed here the legislation also introduces essential incentives and flexibility to the system in order to encourage wetlands users to act responsibly and to invest in restoration and preservation activities.

Both the environment and our constituents are clearly in need of a better wetlands protection system. I appreciate the fact that you have convened this hearing in order to address this critical issue and appreciate the opportunity to present some of my ideas and concerns as to where we are currently headed and where we need to go.

TESTIMONY OF U.S. REP. LINDSAY THOMAS
House Committee on Small Business
January 30, 1991

Mr. Chairman, I congratulate you and the Committee on your interest in the important issue of wetlands and wetland regulations.

Before I recount the problems that small businesses in my area are experiencing with the new wetland regulations, I want the Committee to know where I am coming from on this issue. I have always been a strong advocate of wetlands, and continue to be. Growing up in a part of the country where wetlands are the very fabric of the environment, and as a family farmer depending on the land, I have a very personal perspective on wetlands.

I am chairman of the Wetlands Task Force of the Sunbelt Caucus, but today I speak on behalf of the first district of Georgia.

My District could be the casebook study for the important role that wetlands play in the environment. I represent the entire coast of Georgia, and we boast a variety of wetlands from salty marshlands to magnificent swamps. We also have thousands of acres of land that do not look like wamps, but which are vital, functioning wetlands. We depend on these wetlands for life itself.

We also cannot live without the small businessmen and women in our community, and I fear that some aspects of the new wetland regulations will have a tremendous impact on their already fragile existence. The new regulations have created a series of problems, beginning with the expansion of the definition of wetlands. And the primary impact on small businesses has come when they attempt to develop property.

The new definition, which was established in the 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands, has included a number of high and dry lands under the wetlands category. The amount of fresh water wetlands in my area increased significantly because of the manual-- estimates range from a 30 to 80 percent increase. Suddenly, lands which were previously considered suitable for development were labelled as "wet."

Although the law does not specifically prevent development in wetlands, the system creates that result. The federal agencies with jurisdiction over wetlands protection will tell you that all you need is a permit to fill and develop the area. What they don't tell you is what getting a permit involves.

When an individual calls the Corps of Engineers to ask them to make a wetland delineation on a piece of property, they are usually told that it will take several months before a technician can visit the site. I know that our local Corps offices are overworked and understaffed, and they simply cannot respond any quicker.

Nevertheless, an individual has the choice between waiting several months just to find out if he actually has wetlands, or he can hire a private consultant and then wait several months for the Corps to review their findings. If he does have wetlands and wishes to develop the site, he faces the possibility of waiting over a year to receive a permit.

Once an individual is involved in the permitting process, he will find other hidden costs. For example, most wetland permits require a certain amount of mitigation, or creation of new wetlands to make up for the wetlands that are lost to the development. I strongly support mitigation requirements, but we must find a way to make it affordable to small developers. Mitigation projects cost, on the average, .

Another hidden problem in the permitting process is the "avoidance" issue. A landowner must prove to the Corps that he has made every reasonable effort to avoid placing his project in a wetland area. In my book, that means he works with his property as best he can by redesigning his project to fit around the wetland areas. The Corps believes that if there is nearby upland property, it must be considered an alternative site, even if the applicant doesn't own it.

I know I don't have to tell this Committee about the financial burdens this kind of system places on small businesses. Making payments on property that may not be useable, hiring an environmental consultant, and making interest payments in the meantime really adds up. And it gets worse.

The most bitter part of this cumbersome process is that it applies equally to swamps as it does to marginally wet property which has very few, if any, wetland values.

Make no mistake, Mr. Chairman. Lands that are not continually saturated by water can, indeed, be important wetlands. However, the new manual in some instances identifies as wetlands high ground with standing pine that have paved roads and railroad tracks running through them.

My personal feeling is that much of the immediate problems we face can be corrected by revising the current manual. I know the agencies received a number of sound, scientific comments on the manual last year during their hearings. I certainly hope they will be incorporated into the revisions.

I also believe that we must address certain statutory problems with the wetlands program. We must find incentives for landowners to steward their wetlands. We need to encourage regional planning to remove the log-jam of individual permits. And we need to look at the functions and values of wetlands in determining the level of regulation they require.

Let me close by saying that the people in my area are not interested in filling the marshes or the swamps. They simply want to have reasonable and balanced wetlands regulations.

Mr. Chairman, I appreciate the opportunity to comment on this important issue.

CRAIG THOMAS
WYOMING

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Congress of the United States
House of Representatives
Washington, DC 20515

STATEMENT OF CONGRESSMAN CRAIG THOMAS
Before the Committee on Small Business
January 30, 1990

Mr. Chairman;

First, let me thank you for holding these hearings examining problems with federal regulations protecting our nation's wetlands. This is an extremely important issue for many people in my home state of Wyoming and throughout the United States.

Protection and conservation of our nation's wetlands is an important goal which I fully support. These areas provide habitat for numerous plant species as well as various types of fish and wildlife. Wetlands truly are a national treasure.

However, the current federal laws and regulations established to protect our nation's wetlands are extremely burdensome and complex. In addition, the federal government has not established a comprehensive definition of wetlands and this has only increased the confusion about this issue. There is a serious need for reform of the existing wetlands protection laws and the way they are administered throughout our nation.

The current laws and regulations regarding wetland protection have caused particular problems for our nation's small construction firms and homebuilders. The rules and regulations governing this issue are extremely confusing and complex. Many developers throughout the United States have simply forgone expansion projects or new construction programs because of these complex regulations.

A good example of the difficulties construction and homebuilding companies are having with these regulations is exemplified by a problem a homebuilder is currently having in Jackson, Wyoming. In 1978, Rafter J Partners, which is a developing company in Jackson, received approval to develop a 445 acre subdivision south of Jackson, Wyoming. As part of this approval process, a large number of government agencies were consulted in order to comply with all existing state and federal wetlands regulations.

In 1990, a 6-acre portion of the Rafter J Subdivision, known as Walden Pond, was developed. Although the overall Rafter J area had received approval, additional oversight was initiated on Walden Pond because there was some question whether wetlands were located on the property. After the required tests and oversight were completed, the developers were informed by the County Planner that there were no wetlands on the property and the Army Corps of Engineers would not need to be notified. All of the necessary approvals for Walden Pond were obtained by September, 1990, and construction began on six townhomes in the development.

However, later in the year, the Walden Pond development was inspected by a representative of the Army Corps of Engineers who believed portions of the property constituted wetlands. The investigator concluded that the Walden Pond area was not a naturally occurring wetland, but was being kept wet by seepage from a nearby irrigation region and return flows from an irrigation ditch adjacent to the land. Historic analysis of the area indicated that prior to irrigation of the soil, it was a dry arid region with no naturally occurring wetlands.

Subsequent to the Corps of Engineers preliminary determination, Rafter J Partners halted further construction on the area. Six townhomes, each sold and near completion, stand empty. In addition, some of the buyers of the townhomes have moved to Jackson and have been forced to seek alternate housing, and other buyers have rescinded their contracts and plan to sue the developers for damages. Currently, the entire matter is pending before the EPA and the developers have been forced to wait and hold off any further action on this matter until they have received final notice from the EPA.

Mr. Chairman, I felt it was necessary to give you the details of this case in order to illustrate the problems companies are experiencing with wetlands regulations. Reform of this entire process is vital and should be completed soon. The federal, state, and local governments must work together to develop a comprehensive definition of wetlands and find a way to simplify the process so that America's developers and homebuilders do not encounter problems such as the ones in Jackson.

Mr. Chairman, thank you once again for holding this hearing and looking into ways we can simplify the regulations designed to safeguard America's wetlands. These areas are vital to our nation and they must be protected, but we must also work to streamline the regulatory process. This would be extremely beneficial for everyone involved.

Thank you.

STATEMENT OF THE HONORABLE DON J. PEASE
MEMBER OF THE UNITED STATES HOUSE OF REPRESENTATIVES

before the
COMMITTEE ON SMALL BUSINESS
UNITED STATES HOUSE OF REPRESENTATIVES

concerning
THE REGULATION OF WETLANDS

January 30, 1991

Thank you for the opportunity to testify before you today concerning the extremely important subject of wetlands regulation. The implications of effective versus ineffective wetlands regulation are two-fold and far-reaching. They affect land use and, ultimately, economic development in an area, as well as the environment. Wetlands have been found to be of importance ecologically, recreationally and economically depending upon the location of a wetland area and its proximity to water areas.

For the past several months, I have been monitoring how the U.S. Army Corps of Engineers administers Section 404 of the Federal Water Pollution Control Act, or Clean Water Act, of 1977. Section 404 is the principal federal program requiring the regulatory protection of wetland areas. I have been engaged in this activity on behalf of constituents in my 13th congressional district of Ohio, of which Lorain County is a part and which has been found by Corps of Engineers officials to contain large areas of wetlands. What I have found is that, despite much administrative action undertaken by the Executive Branch since 1986, there is no coherent national policy pursuant to which wetlands are regulated. This has led to confusion on the part of developers and other landowners as enforcement activities are inconsistent among Corps district offices. For example, two of the Corps district offices having jurisdiction over the State of Ohio are the Buffalo, New York district Corps office and the Huntington, West Virginia district Corps office. The stringency with which the Buffalo district Corps office administers Section 404 is apparently greater than that with which the Huntington office administers this section.

Additionally, in order for my staff to complete its research into how wetlands are regulated, it was necessary that we talk with officials in both the Buffalo and Washington, D.C. Corps offices and other resource agencies. It was only through that effort that we were able to piece together the wetlands regulation puzzle. As a result, I have first-hand knowledge of the difficulties local developers, landowners and local officials are encountering in trying to develop an understanding of this issue.

According to a 1988 GAO study, which I have asked GAO officials to update, it was found that many activities such as normal farming and draining that occur in wetlands were not regulated under Section 404. Although these unregulated activities cause most of the wetland losses each year, it was found that neither the Corps nor any of the resource agencies--the U.S. Environmental Protection Agency, the National Marine Fisheries Service of the U.S. Department of Commerce, and the Fish and Wildlife

Service of the U.S. Department of the Interior--maintained comprehensive information on the impact of Section 404 on wetlands. Furthermore, at the time of the study the Corps and the resource agencies differed in the manner in which the Section 404 program should be implemented and in how wetlands should be delineated. They also disagreed on the steps to be taken in order to mitigate wetland losses.

Since that report, there have been several developments in the enforcement of Section 404. On January 10, 1989, the Federal Manual for Identifying and Delineating Jurisdictional Wetlands became effective for the purpose of bringing consistency to the application of the definition of wetlands for federal regulatory purposes. This manual established mandatory technical criteria for the identification and delineation of wetlands. On January 19, 1989, the U.S. Environmental Protection Agency and the Corps (U.S. Army) agreed to a Memorandum of Agreement pertaining to geographic jurisdiction of the Section 404 program and the application of exemptions under Section 404(f) of the Clean Water Act; on January 19, 1989, the Corps and the U.S. Environmental Protection Agency agreed to a Memorandum of Agreement which became effective on March 20, 1989, concerning federal enforcement of the Section 404 program; on February 6, 1990, a Memorandum of Agreement was entered into by the Corps and the U.S. Environmental Protection Agency concerning the determination of mitigation under the Section 404(b)(1) of the Clean Water Act; and on August 14, 1990, the Corps issued a Regulatory Guidance Letter (RGL-90-6) in which expiration dates were set forth for wetlands jurisdictional delineations. However action has yet to be taken which would codify these provisions in law and establish a coherent rulemaking process for the promulgation of regulations.

This year, the Clean Water Act is due for reauthorization. Now is the time for us here in Congress to eliminate the confusion over how Section 404 should be administered. I urge the Small Business Committee to convey to the House Public Works and Transportation Committee in the strongest possible terms the need to address this issue as it undertakes the reauthorization of the Clean Water Act.

Thank you.

Statement of
The Honorable William F. Clinger, Jr.
Before the Committee on Small Business
on Wetlands Policy
Wednesday, January 30, 1991

Mr. Chairman and Members of the Committee, thank you for this opportunity to discuss the federal government's wetlands protection program.

Wetlands are a vital and irreplaceable natural resource. They provide immeasurable benefits to our society, and we as federal legislators must strive to protect these fragile, productive lands. But we also need to establish a coherent policy that is sensible, cost-effective, and easily manageable. In my opinion the wetlands program in force today, specifically those provisions contained in Section 404 of the Clean Water Act, fails to meet this challenge. There are too many federal players with blurred lines of jurisdiction; inconsistencies between federal and state enforcement; and exhaustive documentation requirements which clearly place an extraordinary hardship on small businesses and private property owners. Taken together, this regulatory regime has had the practical effect of a confiscation of property by driving the land's value down so low as to render any investment worthless.

The problems associated with this misguided wetlands program are nationwide but wetlands regulation is particularly critical to the people of central and northwestern Pennsylvania. This area of the state is largely mountainous, and by current standards, most valley or bottom land in the region is likely to be deemed by an agency of either the federal or state government as a wetland, and thus subject to regulation to prevent its alteration. In heavily mountainous areas, the scarcity of flat terrain renders it extremely valuable and desirable for siting homes or small businesses. But the parcels of land in question in many of these areas are quite small -- several acres or less -- making it particularly ludicrous to taxpayers when they belatedly realize that their little parcel is subject to an incomprehensible labyrinth of federal and state restrictions.

A quick survey of the number of federal and state agencies whose mission may include wetlands protection gives a real flavor of the obstacles facing the small property owner. At the federal level, the Army Corps of Engineers, the Fish and Wildlife Service, the Department of Agriculture, and the Environmental Protection Agency play a role in wetlands regulation. In Pennsylvania, the Department of Environmental Resources, together with the Pennsylvania Fish Commission and the Pennsylvania Game Commission add another layer of review and approval. So now you have four federal and three state agencies, each of whom must be satisfied before a property owner or a small businessman can convert or alter his property. The chances of successfully accommodating every agency are remote, to say the least.

Our present wetlands protection program not only suffers from misguided policies that severely restrict small property owners, it also suffers from a case of poor identification. In several instances brought to my attention, lands that historically were not wetlands, through happenstance, are now subject to the program. Further, it seems to me that overzealous enforcement has led some federal and state officials to classify low-value or marginally qualified terrain as wetlands. Let me offer two examples.

There is an industrial plant in Sandy Township, Pennsylvania, that occupies a very small portion of a 22 acre parcel it owns. Two sets of railroad tracks bound the parcel and each set of tracks lays on a bed that is slightly elevated above the terrain. These rail beds have had the unintended effect of acting as dikes, inhibiting rain and snowmelt from freely flowing to nearby creeks. The result has been that the railbeds are responsible for creating the wetlands. When the industrial plant recently attempted to expand the size of its building, the state declared 14 acres of the 22 acre parcel as a wetland.

In Pittsfield, Pennsylvania, a highway culvert became clogged with debris, creating a water backup. Consequently water would drain through nearby property, turning dry terrain into a wetland, at least by the state's definition, and preventing the property owner from developing his land. Ironically, had the state kept the culvert free of obstructions, this problem could have been avoided.

I realize these examples might be perceived as anecdotal and thus subject to healthy skepticism. But I think it is telling that in my area of the state, there isn't that much terrain that is commercially viable, and frankly, the frequency of real estate transactions is relatively low, leading me to believe that if any property owner actually attempted to expand their plants or homes, they might find themselves in for a rude surprise.

Mr. Chairman, our federal wetlands policy must be refined to give clearer definition of a wetlands; to provide a more sensible application process for small property owners to avoid the expense of elaborate and expensive detailed drawings; to recognize that not all wetlands are equal and that some clearly make a much greater contribution toward the preservation of biological habitats and diversity; and finally, I think it is crucial that we reduce the number of federal actors overseeing the program.

TESTIMONY OF

CONGRESSMAN TOM RIDGE

PENNSYLVANIA-21

before the

COMMITTEE ON SMALL BUSINESS

January 30, 1991

Mr. Chairman, Mr. Vice-Chairman, distinguished colleagues,

Thank you for showing such timely leadership on the critical issue of wetlands. Wetlands conservation is a national priority to which we are all committed. The implementation of a rational "no net loss" policy is an attainable goal. This Committee's strong interest in this matter which could easily be relinquished to other committees of jurisdiction is a clear signal that the existing legislative and regulatory scheme is clearly not acceptable. Currently, wetlands protection programs are frozen in a rigid regulatory structure created by litigation and federal and state bureaucracies. Clearly, small business is adversely affected by the current inflexible, unpredictable, and duplicitious regulatory system. Wetlands are being lost. Reasonable business development or expansion is being inhibited or halted. Regulators no longer seem to maintain a sense of balance between legitimate environmental interests and the individual rights of private property.

Mr. Chairman, in your January 17 statement in the Congressional Record, you outline the problem clearly and precisely. The wetlands delineation manual, developed with all good intentions, has been a regulatory failure. It was developed without appropriate public comment or congressional review. It has not resolved wetlands delineation disputes. On the contrary, it has created greater controversy. While further work on the scientific definition of a wetland may have been stimulated by the project, the current manual is unworkable from a public policy perspective.

Mr. Chairman, you also highlight the problems of regulatory overlap, delays and confusion over mitigation requirements. Given the fact the our congressional districts share the Corps of Engineer's Buffalo District, our constituents undoubtedly compete for the limited time and attention of an overburdened regulatory staff. Like New York, Pennsylvania also has a rigid wetlands regulatory system which often confuses well-meaning permit applicants. If my constituents satisfy the permit 404 conditions set forth by the Corps of Engineers, the Environmental Protection Agency, and the defacto requirements often imposed by the U.S. Fish & Wildlife, they must still acquire a 105 permit from the Commonwealth of Pennsylvania's Department of Environmental Resources. To even attempt to obtain a 404 and 105 permit in today's regulatory climate is costly, unpredictable and unfortunately many individuals are inclined to try and evade the permit process altogether.

While defenders of the status quo may claim that this committee or others seeking improvements in the current system are moving away from the goal of "no net loss" of wetlands, I firmly believe they are mistaken. The application process for these permits in today's regulatory climate is lengthy, expensive, and unpredictable.

Unfortunately, it probably encourages as much evasion as it does compliance. Initiatives involving new programs for wetlands protection, restoration, and even wetlands creation must be developed. Those opposed to any change in the existing regulatory framework will ultimately impede progress toward the national objective of no net loss. Programs which provide for wetlands protection, restoration, and even wetlands creation, cannot be properly developed in a period of mistrust and disrespect for the system.

It is estimated that 4% of all the wetlands located in the mid-Atlantic states are located in northwestern Pennsylvania. Clearly, wetlands regulations do affect small businesses throughout the entire region. I certainly do not represent a district that is experiencing major growth and development pressures. Nonetheless, homebuilders and developers are increasingly frustrated with today's system. As legislators, we cannot abdicate our responsibility to develop a comprehensive wetlands protection system to the judicial system.

Agricultural interests have long been the focal point of wetlands regulatory disputes and my district is no exception. But the push for change goes well beyond the agricultural sector. Pennsylvania's hardwood, coal, natural gas, oil, real estate and tourist industries are all affected. These are not business interests on the periphery of Pennsylvania's economy. They represent a critical component of our economy. They are businesses who understand the need for environmental protection, who comply with environmental regulation and accept it as a cost of doing business. Regulation that fails to achieve any standard of balance between public and private interests will ultimately serve neither. Often, business interests come to Congress and the Small Business Committee looking for regulatory modifications. Today, they come looking for an overhaul. For American business the question is not whether reform is needed, the question is when will Congress begin to do the job.

Mr. Chairman, I appreciate the active support you have provided in the development of the Wetlands Comprehensive Management Act. A tremendous amount of effort has been put forth in the development of this bipartisan legislative proposal. As you are aware, along with leadership of our friends and colleague Jimmy Hayes, Don Young, Linsday Thomas and many others have formed a determined coalition of members representing all regions of the country. Our coalition intends to make every effort to enact comprehensive wetlands legislation in the 102nd Congress.

Our resolve to protect America's wetlands is undiminished. Wetlands are national environmental treasures which can and must be protected. Waterfowl breeding populations must be increased in an effort to meet the goal of 62 million by the year 2000 as established by the North American Waterfowl Plan. Lost wetlands must be restored and science must be unleashed to develop well-managed wetlands creation projects. More federal resources and more federal taxdollars must be spent to address this most pressing environmental priority. We can achieve these goals if all interests are recognized as legitimate participants in the debate and if all interests contribute to the solution.

Balance, logic, and fairness must be restored. Business must have a predictable set of rules, a recognition of business needs, and flexibility to accommodate both public and private needs. Private property rights cannot be ignored, nor can the needs of local taxing authorities. The federal government must do more than simply say "stop" to private enterprise. Change must come.

In closing, let me again thank this committee for your interest and your time. The priority status which you afforded to the wetlands issue will clearly have a positive impact on what promises to be a far-ranging congressional debate. This is not a matter which should be left to the courts, civil servants, or the President alone. Congress must be a part of the solution.

Thank you and I would be pleased to respond to any questions which the committee may have.

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)

COMPLETE STATEMENT OF
G. EDWARD DICKEY
ACTING ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)

BEFORE THE
COMMITTEE ON SMALL BUSINESS
U. S. HOUSE OF REPRESENTATIVES

JANUARY 30, 1991

Mr. Chairman and Members of the Committee, I am G. Edward Dickey, Acting Assistant Secretary of the Army (Civil Works). With me today is Mr. Michael Davis, my Assistant for Regulatory Affairs.

I am pleased to be here this morning to discuss the issues you raised in your January 24, 1991 letter concerning the effects of current wetlands protection programs on small business. After briefly providing some general background information on the Army Corps of Engineers regulatory program, I will focus my remarks on the specific topics mentioned in your letter.

Perhaps the single most talked about program of the Corps of Engineers is its regulatory program. The Army Corps of Engineers has been regulating certain activities in the Nation's navigable waters since 1899. Until the 1960s, the primary purpose of the Corps regulatory program was to protect navigation. Since that time, the jurisdictional base and activities regulated under the program have been broadened by Administration initiatives, legislation, and judicial decisions so that the regulatory program considers a range of public interest factors for both the protection and utilization of all waters of the United States. As the program expanded so did its complexity. However, our efforts in implementing this program have always been and will continue to be guided by several basic principles. First we seek to administer the program in a way that is consistent with the letter and intent of the law. Second, we seek to use available federal funding and staff resources in the most effective way to meet the requirements of law, and third, we seek to minimize the potential negative effects on the citizens who are subject to the regulatory process.

The Corps primary regulatory authorities are:

o **Section 10 of the Rivers and Harbors Act of 1899**, which prohibits the obstruction or alteration of navigable waters of the United States without a permit from the Secretary of the Army (33 U.S.C. 403);

o **Section 404 of the Clean Water Act**, which prohibits the discharge of dredged or fill material into waters of the United States without a permit from the Secretary of the Army (33 U.S.C. 1344); and

o **Section 103 of the Marine Protection, Research, and Sanctuaries Act** prohibits the transport of dredged material for purposes of dumping such material in the ocean without a permit from the Secretary of the Army (33 U.S.C. 1413).

About 40 percent of the 15,000 standard permit applications submitted to the Corps each year require evaluation only under Section 10; 30 percent involve both Section 10 and 404; and 30 percent involve Section 404 only. Section 404 applications are evaluated to ensure compliance with the Section 404(b)(1) Guidelines which provide criteria for evaluating the potential unacceptable adverse impacts of the proposed discharge on aquatic resources. The Guidelines, which were promulgated in December 1980 (40 CFR, Part 230) by the Environmental Protection Agency (EPA), in cooperation with the Army, contain the substantive environmental criteria by which the Corps reviews all Section 404 permit applications. Applications are also evaluated in terms of a public interest balancing process; that is, the anticipated benefits of the proposed project are balanced against the reasonably foreseeable detrimental impacts. For Section 404 permits, this balancing test cannot be used to supersede the requirement to comply with the Guidelines. Corps permits are issued only when the work involved complies with the Guidelines and on balance is not contrary to the public interest. The Corps district engineer's decision to issue or deny a permit normally represents final agency action.

Of the approximately 15,000 standard individual permit applications evaluated by the Corps each year, about 10,000 are issued and 500 denied. The remaining approximately 4,500 applications are either canceled by the Corps, withdrawn by the applicant, or qualify for a general permit. In addition to "individual" permits, approximately 40,000 minor activities are authorized each year under the terms and conditions of regional and nationwide general permits.

Approximately 92 per cent of all permit evaluations (i.e., both individual and general permits) are completed in less than 60 days. Most of those completed in less than 60 days are general permit evaluations and those individual permit applications that are not complex and/or controversial.

About 50 percent of individual applications are completed in less than 60 days, with an additional 25 percent decided in less than 120 days, and the remaining 25 percent taking up to one year to complete. Individual applications that involve complex projects or sensitive environmental issues usually require more than 60 days to reach a decision. The number of these complex applications has increased during the last four years and are a major part of the workload. This is a major reason why, in some cases, the Corps has not been able to meet the regulatory time limits set forth in its regulation.

The Corps regulatory program also includes an enforcement arm which investigates some 6,000 reported violations annually and inspects permitted activities for compliance with the terms and conditions of issued permits.

In addition to permit evaluations and enforcement, the Corps conducts approximately 25,000 jurisdictional determinations each year, in response to citizens seeking to know if permits are required for their proposed projects. Jurisdictional determinations are made in accordance with a January 1989 Memorandum of Agreement (MOA) with EPA concerning geographic jurisdiction. Wetland jurisdictional boundaries are delineated using the interagency *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* which was adopted in January 1989. I will discuss the manual's purpose, history and current status later in this statement.

As previously alluded to, the Corps authorizes activities through both individual and general permits. Applications for individual permits generally require considerable evaluation and at times are subject to a lengthy and complex process. General permits are issued for minor activities and require little or no project specific review. What follows is a more detailed discussion of each of these program areas.

In general terms, permit applications that are broader in scope, or that affect more sensitive aquatic resources, require an individual permit. This means the application is subject to a more detailed environmental analysis and evaluation. This process includes the issuance of a public notice which solicits comments from other agencies and the public. The public notice also provides an opportunity for interested parties to request a public hearing. An environmental assessment, or in some cases an environmental impact statement, is prepared in accordance with the requirements of the National Environmental Policy Act. If the proposed project involves a discharge of dredged or fill material into waters of the United States, the applicable state must either issue or waive a water quality certificate under Section 401 of the Clean Water Act. Also, should the project be proposed within a State's coastal zone, it must be consistent with any approved Coastal Zone Management Plan.

An integral part of the Section 404 program is the statutory requirement for interagency and intergovernmental coordination. What follows is a brief explanation of how Section 404 applications are coordinated with other Federal and state agencies. Currently, the primary mechanism for coordination is the project specific public notice which is sent to interested Federal state and local government agencies, adjacent landowners, and any other organization or individual who has expressed a desire to be on the public notice mailing list.

The Corps district engineer's evaluation of the permit application gives full consideration to the responses from the various agencies. The comments from these agencies bear differing weight, depending on their nature and specificity, and the particular expertise of the commenting agency. For example, the comments of the U. S. Fish and Wildlife Service (FWS) or the National Oceanic and Atmospheric Administration concerning impacts of a project on fish and wildlife resources are accorded great deference in the Corps evaluation of impacts to these resources. In other cases an official agency comment may mandate the permit decision; a denial of water quality certification by the State certification agency requires the denial of a Section 404 permit since water quality certification pursuant to Section 401 of the Clean Water Act is a prerequisite to granting a 404 permit. The EPA works closely with the Corps in implementation of the Section 404 program by providing comments and recommendations through the public notice process and by exercising its independent enforcement authorities. EPA also has independent authority to veto proposed permits under Section 404(c). In this regard EPA may, after going through an independent evaluation process, deny or restrict the use of a particular site or override a Corps permit decision when it determines that a discharge will have an unacceptable adverse impact on municipal water supplies, shellfish beds and fishing areas, wildlife or recreational areas.

General permits are used to authorize activities whose impacts, either individually or cumulatively, are minor in nature. A number of minor activities such as bank stabilization projects and utility line crossings have been identified and authorized by the Chief of Engineers through the issuance of nationwide general permits. To ensure that nationwide permits do not pose an unforeseen threat to significant aquatic resources, the regulations grant division engineers discretionary authority to override nationwide permits for particular projects or geographic areas, and to require individual permits. In addition to nationwide permits, Corps division and district engineers may issue general permits on a regional basis. At the present time approximately 600 regional permits are in effect around the country. These permits authorized about 18,000 activities in fiscal year 1990.

EVOLUTION OF THE PROGRAM

As will be noted several times during this statement, the Section 404 regulatory program has been an evolving, dynamic program that has been shaped by judicial decisions, subsequent legislation, national policy, and local or regional concerns. Section 404 is extremely broad in terms of the waters regulated; it applies to all waters of the United States, including most wetlands. Conversely, the scope of activities regulated under Section 404 is somewhat narrow; only projects that involve the discharge of dredged or fill material into regulated waters are subject to Section 404.

Always of concern to those involved with the Corps regulatory program has been the complexity of the process used to evaluate permit applications. In the early 1980s, the Corps regulatory program was singled out for review by the President's Task Force on Regulatory

Relief. In response the Corps devoted considerable effort to streamlining the regulatory process in order to reduce the burden on the regulated public. The thrust of that effort was to make administrative changes in the regulatory program that promoted good, efficient government without reducing the environmental protection contained in the Clean Water Act, the National Environmental Policy Act, and all the other environmental statutes that apply to the program. The measures taken helped to reduce or eliminate unnecessary, duplicative and wasteful procedures while leaving the substance of the program intact.

Measures taken in response to this initiative included the following: enhancement of the use of nationwide and regional general permits; a combining of the documents prepared during the evaluation process to reduce duplication of staff effort; a streamlining of the Section 404 (q) elevation process to reduce the time taken in resolving interagency disagreements on individual permit applications; a consolidated rule which clarified the Corps mitigation requirements; the clarification of nationwide permits; and provisions for a short form Section 404 process for routine, non-controversial projects. These measures cumulatively had a dramatic impact on the Corps regulatory program during the mid-1980s and as a result the average processing time for individual permits was reduced by 40 percent and the backlog of applications pending was reduced by 60 percent. All of this was accomplished by a dedicated staff, using the streamlined evaluation process and the effects of general permitting.

Presently, we are experiencing an increase in the average time required to evaluate individual permits and in the backlog of pending applications. This is due in part to our effective use of general permits. General permits now authorize about 40,000 actions annually. Before such actions were permitted by general permits, each action required an individual permit evaluation. Because these activities were relatively minor in nature and required little time to evaluate, the average time for processing individual permits was less. When we removed these activities from the individual process, it left those actions that are inherently more complex and difficult to evaluate. As a result, the average time for processing individual permits increased. Today, we continue to receive approximately 15,000 applications for individual permits annually, but these applications take longer to evaluate because as a rule, they involve more complex and sensitive environmental issues. The Corps is now looking at methods to further streamline the permitting process.

As you know, we are more committed than ever to protecting and wisely managing our Nation's remaining wetlands. President Bush has stated that his Administration will protect and preserve wetlands and adopt a national goal of no net loss of these valuable aquatic resources. At the President's direction, the Domestic Policy Council (DPC) has established an interagency task force on wetlands. The DPC task force is charged with developing a comprehensive set of recommendations to work toward the President's goal of no overall net loss of existing wetlands. We wholeheartedly support the President's wetlands initiative and will work to strengthen our existing programs, as necessary, that protect, maintain, and restore wetlands. At the same time, we continue to look for new and innovative ways to reduce unnecessary duplication and delays that may be associated with the permit program.

WETLANDS DELINEATION MANUAL

At the Federal level, four agencies are principally involved with wetlands identification and delineation. These agencies are the Corps, EPA, FWS, and the Soil Conservation Service (SCS). Each of the agencies developed, over the years, their own techniques for identifying and delineating wetlands. Recognizing the inefficiency and increased regulatory burden on the public caused by these differing agency approaches, the four agencies initiated discussions on the possibility of merging the four Federal methods into a joint interagency wetland delineation manual. In May 1988, the first of several interagency meetings was held to discuss the differences between each agency's approach to delineating wetlands. On January 10, 1989, the four agencies adopted the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (Manual). The Manual, which was implemented by the Corps, FWS and EPA on March 20, 1989, describes the technical criteria, field indicators, and other sources of information necessary for each agency to make consistent wetland delineations.

The Corps regulatory definition of wetlands, codified at 33 CFR 328.3(b), has remained unchanged since 1977. Explicit in this definition is the consideration of three environmental parameters: hydrology, soil, and vegetation. Positive indicators of these three essential characteristics are normally present in wetlands. These characteristics are specified in the Manual as "mandatory technical criteria."

While we continue to believe that the Manual represents a good faith effort by the four Federal agencies to bring consistency to wetlands delineation, we realize that it is not a perfect document. In fact, when the Manual was adopted, the Federal Interagency Wetlands Delineation Committee (FIWDC) responsible for its development agreed to evaluate its use approximately one year from its adoption. In this regard, the FIWDC has initiated its review to identify needed clarifications and changes. The public has participated in this review at four national public meetings and through the submission of written comments. The FIWDC has met on three occasions since October 1990, and draft recommendations are now being developed. We believe that the proposed changes will significantly improve the Manual by clarifying it and reducing the opportunity for erroneous wetland jurisdictional determinations. We expect to complete the technical evaluation and implement all changes this spring.

In addition to technical changes to the Manual, on September 26, 1990, the Corps issued guidance to its field offices which clarifies the concept of "normal circumstances" as used in the definition of wetlands. The Corps has determined that the normal circumstances of areas identified as "prior converted cropland" in accordance with SCS regulations for Swampbuster is cropland -- not wetland, and therefore not subject to regulation under Section 404. Permits are not required for any activities within prior converted cropland. Areas which meet the SCS definition of "farmed wetlands" continue to be subject to regulation under Section 404.

In regard to potential concerns over the impact of classifying public and private lands as wetlands, it is important to emphasize that the Manual itself is used for the purpose of wetland boundary determinations only. This determination does not consider or address a particular area's suitability for potential development. Further, the designation of an area as a wetland does not restrict the right of an individual to apply for a permit for activities regulated by the Corps nor does it alter existing statutory exemptions found in Section 404(f).

MITIGATION MOA

The EPA/Army MOA on mitigation, which was signed on February 6, 1990, provides general guidance on the mitigation requirements of the Section 404(b)(1) Guidelines. The MOA became effective on February 7, 1990. The Army is committed to implementing the Section 404 program in a manner consistent with the objectives of the Clean Water Act as reflected in the 404(b)(1) Guidelines.

Development of the MOA started in 1985, in part, as a result of Congressional interest. During the July 1985 Senate Section 404 Oversight Hearings, Senator Chafee expressed an interest in a joint mitigation policy under the 404(b)(1) Guidelines. The Corps in its 1986 regulations notified the public of the effort to develop additional guidance on mitigation required under the Guidelines.

The purpose of the MOA is to articulate and clarify the procedures that Corps district engineers use to determine the type and level of mitigation necessary to demonstrate compliance with the Guidelines. Also, EPA will use the MOA in developing its positions on compliance with the Guidelines when commenting on standard individual permit applications. The MOA is a clarification of existing regulations and was developed in response to questions that have arisen from Corps and EPA field offices.

The MOA provides an interpretation of the Guidelines and a consistent procedural framework for all Corps and EPA field offices to follow in the consideration of mitigation requirements under Section 404. We believe that the MOA guidance is consistent with existing regulations and the objectives of the Clean Water Act to "restore" and "maintain" the chemical, physical, and biological integrity of the Nation's waters, including wetlands. It is important to note that the MOA is not, in and of itself, a no net loss policy and neither the Section 404 program in general, nor the MOA in particular, can be expected to achieve the national goal of no net loss of wetlands. The Corps will strive to advance the President's goal of no net loss of the Nation's remaining wetlands through our regulatory programs. However, the MOA clearly recognizes that within the context of the 404 program, only mitigation which is appropriate and practicable will be required.

In the preparation of the MOA, EPA and the Corps recognized the need to retain the flexibility afforded by the Guidelines which allow us to respond appropriately to regional variations and individual circumstances that exist across the country. Of particular note is the need to respond to the relative value of the wetlands being impacted. The Guidelines and the

MOA do allow for a consideration of the relative functions and values associated with the wetland to be impacted by a proposed discharge.

While some regional changes in mitigation practices by some Corps and EPA field offices have occurred, in general the MOA has provided greater certainty in the implementation of the regulatory program. We will closely monitor implementation of the MOA nationwide in order to make necessary revisions or to prepare supplementary guidance as experience may dictate. We further recognize that regulatory revisions or supplementary guidance may ultimately be appropriate to reflect directions or conclusions regarding no net loss of wetlands as provided by the DPC Wetlands Task Force.

REDUCING DELAYS

As part of our ongoing effort to administer more efficiently the regulatory program and reduce regulatory delays, several actions have been completed and/or initiated in the last two years in addition to the interagency wetlands delineation manual and the EPA/Army mitigation MOA.

In January 1989, Army and EPA signed a MOA on the determination of geographic jurisdiction and Section 404(f) exemptions. The MOA provides that the Corps will make all jurisdictional and exemption determinations unless EPA designates in advance a special case where it will make the determination. This MOA addressed most of the difficulties experienced under a previous agreement. Both agencies and the public now have a better definition of responsibilities. The new MOA virtually eliminates the overlap, duplication, and confusion that has occurred in the past.

Effective enforcement is essential to any successful regulatory program. Enforcement under Section 404 is divided between the Corps and EPA, with EPA having explicit statutory enforcement authority to deal with unauthorized discharges of dredged or fill material, while the Corps has similar authority for violations of permit conditions. In January 1989, the Army and EPA entered into a MOA that ensures that enforcement resources are used more efficiently. The agreement provides a clearer definition of each agency's enforcement role, thus reducing duplication or wasted effort. The enforcement MOA establishes the Corps as the agency primarily responsible for initial investigations of reported violations. Once a violation is confirmed, the MOA sets a procedure for the designation of a lead agency to pursue enforcement action. That designation is based on the best use of agency resources, expertise, and authorities. The MOA will provide for a strong enforcement program and make the best use of limited resources.

In addition to the formal guidance provided by the various MOAs, we have recently increased our efforts to provide clear unambiguous policy interpretations of our current regulations. For example, in May 1990, we published joint guidance with EPA on Section 404 and agricultural activities. In September 1990, we published in a Regulatory Guidance Letter our intentions to no longer regulate under Section 404 lands classified by the SCS as prior converted cropland. Our working relationship with not only EPA but other agencies, such as the Federal Highway Administration and the FWS, has improved significantly. This has reduced field level disputes and disagreements and clearly benefits the regulated public.

While I would like to report to you that in light of all of our recent program improvements, all permit actions are brought to closure in a timely manner without delay to the public, I must say that we continue to be concerned with our ability to respond to the needs of the public in some Corps districts. In short, many of the problems associated with the regulatory program can be attributed to limited personnel. In this regard, we have directed the Corps to increase its regulatory staff by 25 percent by the end of fiscal year 1993. It is important to note that the increase in regulatory staff will occur within the existing overall Corps personnel ceiling.

One of the greatest challenges currently facing regulatory agencies is the identification and quantification of wetlands functions and values. The administrative regulations and the Section 404(b)(1) Guidelines contain minimum guidance on the functions and values of wetlands. Functions and values of wetlands can be assessed using current scientific methods, however, this process can be lengthy and expensive. We have long recognized this problem and have responded with the development of a "Wetlands Evaluation Technique" (WET) that when finished should prove to be a valuable tool for the regulatory program. In order to expedite the refinement of WET and to increase our overall understanding of wetlands functions and values, the Corps has significantly increased its wetlands research program. Funding in the amount of 22 million dollars over the next three years has been committed to this initiative on wetlands research.

REGULATORY PROGRAM OUTLOOK

In closing I would like to emphasize our commitment to the proper administration of the Corps regulatory program. The Corps has a long history of fairly administering its regulatory program. This will continue as we move into our second century of regulating activities in our Nation's waters. The EPA/Army mitigation MOA and the January 1989 MOAs on enforcement and jurisdictional boundaries represent very positive steps in our efforts to provide consistent national guidance on the Corps regulatory program. In our view, all of these initiatives properly clarify the regulatory process and consequently increase predictability and reduce delays which are inherent in such a complex program.

The increase in manpower will be only partially effective if other innovative solutions to workload problems are not developed. Thus, improving and developing better general permits, especially those based on State programs, and clarification and simplification of regulatory policy and procedures must be a continuing effort, with care taken not to reduce the program's effectiveness in protecting the nation's waters. This has proven, and continues to be, a difficult task.

Mr. Chairman that concludes my statement. I would be pleased to address any questions that you or other members of the Committee may have.

STATEMENT OF
LAJUANA S. WILCHER
ASSISTANT ADMINISTRATOR FOR WATER
U. S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
COMMITTEE ON SMALL BUSINESS
U.S. HOUSE OF REPRESENTATIVES

JANUARY 30, 1991

Good morning, Mr. Chairman and members of the Committee. I am LaJuana S. Wilcher, the Environmental Protection Agency's (EPA's) Assistant Administrator for Water. I appreciate the opportunity to be with you today to discuss EPA's role in the Clean Water Act section 404 regulatory program, the primary federal program for regulating activities in wetlands.

EPA has been involved in wetlands protection since the passage of the 1972 amendments to the Federal Water Pollution Control Act, which established the section 404 regulatory program. The section 404 permit program regulates the discharge of dredged or fill material into "waters of the United States," a term which includes most of the Nation's wetlands. This program is jointly implemented by EPA and the Army Corps of Engineers, with advice from the Fish and Wildlife Service and the National Oceanic and Atmospheric Administration. While the Corps of Engineers handles the day-to-day administration of the program, including reviewing permit applications and deciding whether to issue or deny the permit, EPA has several significant statutory responsibilities in the program. EPA's key responsibilities include: development of the program's environmental standards; prohibiting discharges that will have unacceptable adverse effects; enforcement, approval and oversight of State program assumption; and determining the scope of jurisdiction and the applicability of permit exemptions under section 404(f).

EPA's responsibilities are implemented both at headquarters and in the field. The Office of Water manages all national section 404 permit program activities of EPA, including development of relevant regulations, policy, and guidance. Field activities are carried out by wetlands staff in EPA's ten Regional offices.

Section 404(b)(1) Guidelines

Section 404(b)(1) of the Clean Water Act directs EPA to develop, in conjunction with the Corps of Engineers, guidelines for reviewing section 404 permit applications. The section 404(b)(1) Guidelines (or Guidelines) provide the environmental criteria used in evaluating discharges of dredged or fill material before a permit is issued. A fundamental precept of the Guidelines is that dredged or fill material should not be discharged into the aquatic ecosystem unless it can be demonstrated that such a discharge will not significantly degrade the aquatic environment either individually or when viewed in terms of cumulative impact.

One of the primary requirements of the Guidelines is that no discharge can be permitted when alternatives to the proposed project are found to be practicable and have less adverse impact on the aquatic environment. The determination that an alternative is practicable is based on consideration of cost, technology, and logistics in light of the basic project purpose. The Guidelines create two rebuttable presumptions regarding discharges into special aquatic sites, a category of waters that includes wetlands: (1) that, for non-water-dependent activities, practicable alternative sites which do not involve discharges to special aquatic sites are available; and (2) that such alternatives are less environmentally damaging than the proposed project, unless clearly demonstrated otherwise.

In addition, no discharge can be permitted under the Guidelines if it would violate State water quality standards, toxic effluent standards, requirements enacted to protect any federally designated marine sanctuary, or the Endangered Species Act. The Guidelines also prohibit discharges which would cause or contribute to significant degradation of the waters of the United States.

The Guidelines further require that all appropriate and practicable measures to minimize (that is, mitigate) potential harm to the aquatic ecosystem be taken. To further explain this requirement, EPA and Army signed a Memorandum of Agreement (MOA) on February 6, 1990, concerning the determination of the type and level of mitigation necessary to demonstrate compliance with the Guidelines. This MOA clarifies that mitigation should occur in a clear sequence of the following: avoidance of impacts through evaluation of practicable alternatives; minimization as the second step; and, lastly, compensation of unavoidable impacts through restoration or creation. Some flexibility (in narrowly defined circumstances) is allowed in the application of the mitigation sequence. We believe that the consistency provided by this MOA will increase the predictability of the section 404 permit process.

The Guidelines also provide for an Advance Identification process, in which EPA and the section 404 permitting authority (either the Corps of Engineers or an approved State agency) work together to designate areas as generally suitable or unsuitable for the discharge of dredged or fill material. The information produced by this process will be used by EPA and the permitting authority in reviewing section 404 permit applications; and, for that reason, it provides the regulated community with an early indication of whether a section 404 permit application is likely to be favorably received.

Geographic Jurisdiction

I would like to turn to EPA's responsibilities regarding section 404 jurisdiction. Because EPA is responsible for overall implementation of the Clean Water Act, it has the ultimate responsibility for determining the scope of the geographic extent of section 404 jurisdiction. The Clean Water Act's geographic jurisdiction is comprehensive, extending to all waters of the United States. The term "waters of the United States" includes waters such as rivers, lakes, streams, tidal waters, and most wetlands.

In early 1989, EPA and three other agencies (the Corps of Engineers, Fish and Wildlife Service, and Soil Conservation Service) agreed on a consistent approach for delineating areas as wetlands under the jurisdiction of several federal programs, including section 404. Together with these agencies, EPA adopted a single manual as the technical basis for delineating wetlands. The manual relies on three parameters--hydric soils, wetlands hydrology and hydrophytic vegetation--as the basis for determining jurisdiction. In addition, the four agencies are currently revising the manual based on experience gained with using it. When the manual was adopted, it was anticipated that some additional clarification and/or changes might be required. In revising the manual, EPA, together with the other agencies, is considering the information collected from agency field offices, field testing of the manual, and public comments received during several public meetings held throughout the country in the summer of 1990.

In order to efficiently administer the program, EPA and Army signed a revised Memorandum of Agreement on January 19, 1989, to effectively allocate resources associated with determining the geographic jurisdiction of the section 404 program. This agreement allows the Corps, which has a larger field presence, to make the majority of jurisdictional determinations in the field. In making its determinations, the Corps will use the aforementioned interagency manual, and other guidance and regulations issued by EPA, in coordination with the Corps. In addition, under this MOA, EPA will have the ability to designate in advance special cases for areas where EPA feels it necessary for it to make the final determination of the scope of waters of the United States, for example, where there are unusual circumstances or a high degree of difficulty and controversy. EPA has exercised this option only three times from 1980 to 1989, when the previous MOA on geographic jurisdiction was in effect. Since the revised MOA was signed in 1989, EPA has not designated any special cases.

Section 404(c) and Section 404(q)

The Corps of Engineers receives roughly 15,000 permit applications for section 404 discharges each year. A project must comply with the Guidelines in order for the permit to be issued. EPA works with the Corps of Engineers during the permit decision process to ensure that unacceptable impacts are avoided. EPA reviews the public notice for individual permit applications, and provides comments to the Corps regarding the environmental impacts of the proposed activities and EPA's position on the proposed project's compliance with the Guidelines. Most concerns are resolved through this interagency consultation and coordination.

Under section 404(q), the Corps and EPA have developed through a Memorandum of Agreement a framework under which EPA may formally elevate, for higher level review, interagency disputes over compliance with the Guidelines of a proposed discharge. The section 404(q) MOA sets a clear timeframe for elevated permit decision review to minimize delays in the permit process. I would like to add that an overwhelming majority of the permit decisions are made without the need for elevation under the section 404(q) MOA. Since 1980 when the section 404(q) MOA was first agreed to, EPA has requested headquarters level review of a permit decision only 27 times out of an estimated 150,000 permit applications received throughout this period.

Section 404(c) authorizes the Administrator of EPA to prohibit or restrict the use of a disposal site when the discharge of dredged or fill material into waters of the United States would have unacceptable adverse effects on municipal water supplies, shellfish beds and fishery areas, wildlife, or recreational areas. This authority may be used before, during, or after Corps action on a permit application. EPA may also exercise this authority in the absence of a specified permit application or Corps regulatory action. In general, section 404(c) actions are taken by EPA only when it is clear that the project will have unacceptable adverse impacts on valuable environmental resources. To date, EPA has completed only eleven section 404(c) actions, out of an estimated 150,000 permit applications received since the section 404(c) regulations went into effect in late 1979.

Enforcement

EPA and the Corps also share responsibility for enforcing the section 404 program. Given the Corps' larger field presence and its role as the federal permitting authority, EPA has focused its enforcement efforts against unpermitted dischargers. The Corps is the lead enforcement agency regarding violations of Corps-issued permit conditions.

The Clean Water Act provides EPA and the Corps with various mechanisms for responding to section 404 violations. With regard to administrative enforcement, EPA can issue an administrative compliance order to stop an ongoing illegal discharge activity and, where appropriate, to remove the illegal discharge and otherwise restore the site. EPA also has the authority to assess administrative civil penalties up to $125,000. Turning to judicial mechanisms, EPA has the authority to recommend that the U.S. take civil enforcement actions seeking restoration and other types of injunctive relief, as well as civil penalties. EPA also may recommend criminal judicial enforcement actions which may result in a fine and/or imprisonment.

Section 404(f) Responsibilities

The Clean Water Act, under section 404(f), exempts from regulation discharges of dredged or fill material resulting from certain activities. These activities include: normal farming, silviculture, and ranching activities; maintenance of structures; construction or maintenance of farm or stock ponds or irrigation ditches or maintenance of drainage ditches; construction of temporary sedimentation basins; and, construction or maintenance of farm or forest roads. It is important to note that these exemptions do not apply to discharges associated with activities which convert the waters of the United States to another use and reduce the reach or impair the flow or circulation of such waters. While the Corps of Engineers makes the majority of the day-to-day decisions regarding exempted activities, EPA has the ultimate responsibility for determining the applicability of the exemptions and developing guidance.

State Assumption of Section 404

Section 404(g) allows for States to assume the section 404 program and regulate the discharge of dredged or fill material into State regulated waters (excepting traditionally navigable waters and their adjacent wetlands). EPA has issued regulations that set forth the procedures and criteria used by EPA in approving, reviewing, and withdrawing approval of State 404 programs. To date, EPA has approved assumption of the section 404 program by the State of Michigan. However, EPA has provided grants to about seventeen States over the years to evaluate the feasibility of their assuming the section 404 program, and has recently established a specific grants program to encourage State efforts to protect wetlands in general, including assumption of the section 404 program.

Conclusion

In closing, I want to emphasize that EPA is committed to wetlands protection and to achieving the Administration's goal of no overall net loss of wetlands. However, I would like to add that the section 404 regulatory program--while a critical element--is only a part of EPA's, and the Administration's, wetland protection activities. EPA has several initiatives underway to protect wetlands beyond the section 404 permit program. I would like to highlight a few examples. We are working to integrate wetlands protection within our programs on control of non-point source pollution and water quality management. We continue to strengthen our ties with other federal agencies to assure consideration of wetlands in their programs. These efforts include working with water resource agencies on river and floodplain management, with the Department of Agriculture on agriculture outreach and on the provisions of the 1990 Food Security Act, and with principal federal land management agencies. In addition, to further establish government leadership, EPA assists State and local wetlands regulatory protection efforts through financial and technical assistance. Efforts are underway with State and local agencies to increase leadership and to develop wetlands protection strategies. EPA has also undertaken endeavors to provide clear information to improve the public's understanding of the functions and values of wetlands, and ways to protect them. We continue to support an active wetlands research program focusing on reducing uncertainties of wetlands creation and restoration, improving our understanding of the water quality benefits provided by wetlands, and assessment of cumulative impacts.

EPA also remains committed to working with the Department of the Army and the Corps of Engineers to increase the predictability of the section 404 permit process in a manner that will benefit the general public and reduce the confusion for the regulated community. I am particularly pleased with the recent accomplishments associated with the section 404 permit program that will help improve program efficiency. However, it is important to remember that these accomplishments are based on existing regulations that remain unchanged. We have not established new requirements beyond the existing regulations. They are intended to provide additional guidance to section 404 permit applicants and the public on the principles of the existing Guidelines.

Thank you for the opportunity to represent EPA at this hearing to discuss this important subject. I will be happy to answer any questions you may have.

Statement of
James R. Moseley
Assistant Secretary for Natural Resources and the Environment
United States Department of Agriculture

before the
Committee on Small Business
United States House of Representatives

Concerning Wetlands and Small Business
January 30, 1991
Washington, D.C.

MR CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE

I am pleased to have the opportunity to testify before your committee to discuss the U.S. Department of Agriculture's (USDA) activities in the area of wetlands protection and restoration and their effects on small business.

First, Mr. Chairman, let me state that USDA is committed to the preservation and restoration of the values that wetlands provide. We support the President's no net loss objective, and our goal has been to do so in a reasonable, practical and efficient manner.

Within USDA, two agencies have primary responsibility for wetland protection efforts. They are the Agricultural Stabilization and Conservation Service (ASCS) and the Soil Conservation Service (SCS).

ASCS is the agency which usually administers the financial aspects of farm programs and SCS is the primary technical assistance agency for soil and water conservation efforts. These agencies work closely together in delivering services to American agricultural producers and in carrying out statutory mandates.

The intent of USDA farm programs are three fold:

- to ensure American consumers have an abundance of reasonably priced food;
- to help provide a fair return to American producers and maintain their competitiveness; and
- to conserve this Nation's natural resources which are the basis for all of our agricultural production.

Wetlands

Wetlands are productive and valuable natural resources. They constitute habitat crucial to many forms of wildlife and are important in maintaining ground water supplies and water quality, in protecting shorelines from erosion, in storing floodwaters, and in trapping sediments.

Existing Federal programs that help protect wetlands include the Water Bank Program, The Conservation Reserve Program, the Clean Water Act's section 404 Regulatory Program, the provisions of Executive Order No. 11990, and the so-called "Swampbuster" provision of the Food Security Act of 1985. In addition, the Department will begin implementing the 1990 Farm Bill.

1985 Food Security Act

Enactment of the Food Security Act of 1985 (the FSA) dramatically changed USDA's approach to wetland conservation. For the first time, receipt of most Federal farm program benefits — including commodity price supports, agricultural credit, and crop insurance — became contingent on the application of land stewardship practices by agricultural producers, including the protection of wetlands. It was in response to the FSA that USDA accelerated its activities in wetland identification, management and protection.

The Conservation Title of the FSA and its main provisions — encompassing conservation reserve, Swampbuster, Sodbuster, and conservation compliance — changed the programs and program priorities of Federal soil and water conservation agencies and their cooperators at the state and local levels.

Essentially, the Swampbuster provision had, and continues to have, the largest effect on wetlands.

Swampbuster

Under the FSA, the Swampbuster provision helps to protect the nation's wetlands by denying Federal farm program benefits to producers who planted an "agricultural commodity" (an annually tilled crop or sugarcane) on wetlands that were converted after December 23, 1985 (the date the Act was signed). A key point here is that under the FSA, as enacted in 1985, a producer could drain a wetland, but as long as he or she did not plant a commodity crop on it, no Swampbuster violation occurred.

The 1990 Farm Bill (the Food, Agriculture, Credit and Trade Act of 1990, Public Law 101-624) changed this by stipulating that the **act of draining or manipulating a wetland so as to make planting an agricultural commodity possible** would be a

Swampbuster violation. While the 1990 Farm Bill strengthened wetland protection by moving the trigger up for Swampbuster violations, it also created a system of graduated sanctions for inadvertent violations under which producers can regain lost USDA benefits if they restore the converted wetland. In the past, any violation caused the total denial of all USDA farm program benefits.

1985 FSA Wetland Definition

The FSA, as enacted in 1985, contained the following definition of wetland: "The term 'wetland' except when such term is part of the term 'converted wetland', means land that has a predominance of hydric soils and that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions."

The procedure that the Soil Conservation Service uses for identifying wetland under this definition was published by USDA in the regulations implementing the provisions of the FSA, 7 CFR Part 12, on September 17, 1987 and is described in further detail in the SCS Food Security Act Manual. The procedure outlines criteria for hydric soils, wetland hydrology and hydrophytic vegetation, and provides an interpretation for the term "normal circumstances" that has the effect of classifying certain cropland as wetland.

Agricultural interests and many persons at USDA believed, at the time the FSA was enacted, that the phrase: **"under normal circumstances does support a predominance of hydrophytic vegetation"** meant that the land would actually have to be vegetated with wetland plants in order to meet the definition of wetland. Following this interpretation would have exempted land from Swampbuster that is normally used for crop production since such land would not contain a prevalence of hydrophytic vegetation in most years.

However, such an interpretation would have eliminated from the Swampbuster provisions protecting certain wetlands that are seasonally wet, yet dry enough in most years to produce traditional crops. In addition, the House Merchant Marine and Fisheries Committee, in a Committee report issued during consideration of the FSA, stated the following:

"Within the definition of the term wetlands, the term 'normal' is intended by the Committee to make clear that areas that are saturated by surface or groundwater but that have had wetland vegetation destroyed are nonetheless considered wetlands for the purposes of this Act. The term 'normal' is not intended to require any particular frequency or duration of flooding, saturation, or ponding.".

Under the rules and regulations issued in response to this Committee report, certain wetlands could be farmed under natural conditions, have hydrophytic vegetation removed, yet still function as wetlands. This interpretation of "normal circumstances" meant that cropland would be considered wetland if it were capable of supporting hydrophytic vegetation and that cropping or cropping history are not to be criteria in determining if an area is wetland.

Although the Swampbuster rule recognized that cropland could be classified as wetland, it also provided exemptions for wetlands that were altered before the FSA was signed.

The two primary exemptions for wetlands that were altered prior to the enactment of the FSA are:

> 1) **Prior Converted Cropland** - Wetlands which were manipulated before December 23, 1985. This does not include pothole or playa wetlands, nor other wetlands that are seasonally flooded or ponded for extended periods. Prior converted cropland is unconditionally exempt from Swampbuster, unless abandoned and wetland conditions have returned.
>
> 2) **Farmed Wetland** - Wetlands that continue to exhibit important wetland values even though they were both manipulated and cropped before December 23, 1985. Farmed wetland includes potholes and playas that meet wetland criteria and other wetlands that are seasonally flooded for extended periods during the growing season. Farmed wetlands are subject to Swampbuster; however, they may be farmed and maintained as they were prior to the Act. Maintaining existing drainage systems is allowed on farmed wetlands, but deepening or expanding the system is not. Improvements can be made as long as the system is not deepened or expanded. All Farmed Wetlands are subject to Section 404 regulations.

In addition to the above exemptions, Swampbuster also contains exemptions for artificial or irrigation-induced wetlands, conversions which are determined to have minimal effect, and conversions which were commenced prior to the date of the Act.

In addition, the SCS Swampbuster regulation has a four-level appeal process to allow producers to formally disagree with any wetland determination or any exemption that is denied. Producers can appeal at the local, area, state, and national level on any wetland determination or exemption they feel is in error.

Implementation of the Swampbuster Provisions

Since enactment of the Swampbuster provisions, SCS has made a total of 1.6 million wetland determinations involving more than 12 million acres and nearly 6,000 determinations of converted wetland involving approximately 87,000 acres. Most of those determinations have been made through a wetland inventory which serves as the initial source of information upon which a final determination may be based.

The SCS wetland inventory focuses on inland freshwater wetlands that have a high potential for agricultural conversion. The wetland inventory uses office information such as: compliance slides from ASCS, other aerial photography, satellite imagery, Fish and Wildlife Service National Wetland Inventory maps, SCS soil surveys, local weather records, stream gauge data and other locally available data as the basis for map delineations.

Mapping is generally performed by SCS employees who interpret the office data and delineate the wetlands/converted wetlands on a photographic base. Mapping conventions have been developed and coordinated between regions, states and counties to yield consistent results in information interpretation.

The inventory maps are made available for producers to review the wetland delineations; first on an informal basis, either through direct mailing or by conducting public meetings.

The producers are asked if they agree with the delineated wetlands/converted wetlands. If they do, SCS makes a final determination based on the inventory and transmits the determination to the producer and ASCS by means of form CPA-026. The form includes a photocopy of the producer's fields with the wetlands/converted wetlands delineated, including information on the restrictions associated with each delineation.

If the producer disagrees with the determination, the producer can request that the local SCS District Conservationist reconsider the determination. In such cases, SCS employees examine the wetland/converted wetland in question in the field and may use more rigorous procedures to verify the determination. Once this is done, a final determination is made.

This determination process thus provides a means for determinations to be made either from the office or onsite depending upon the complexity of the determination or agreement of the producer. Let me stress here that no final determination is made without the producer being notified and having the opportunity to either concur with or dispute the determination.

SCS wetland determinations are scheduled to be completed for all USDA program participants by December 31, 1991. Currently determinations have been completed on approximately 50 percent of USDA program participant cropland.

Producers are required to certify compliance with Swampbuster on Form AD-1026. To ensure compliance, ASCS annually spot checks a statistically sound sample of all certifications.

The Federal Manual for Identifying and Delineating Jurisdictional Wetlands

On January 10, 1989, the Army Corps of Engineers, Environmental Protection Agency, Fish and Wildlife Service and SCS signed an interagency Manual for identifying and delineating wetlands. SCS was represented on the Interagency Technical Committee responsible for the Manual's development.

The purpose of the Manual is to provide a common basis for identifying wetlands among the Federal agencies with primary wetland responsibilities. Prior to the development of the Manual, Federal agencies were using a variety of methods to identify wetlands which, at times, yielded different results in some parts of the country. The Manual sets forth mandatory wetland criteria and makes the approach for wetland identification consistent among agencies.

While the Manual provides a common approach for Federal agencies to agree on what a wetland is, it is important to note that the Manual did not significantly alter the way that SCS makes wetland determinations.

Furthermore, when the Manual was developed, it was realized that some additional clarification and/or changes would likely be required. In this regard, the Interagency Technical Committee responsible for its development agreed to evaluate it after it had been in use for one year.

Last fall, the Committee held a series of four regional public meetings to solicit technical comments on the Manual as part of their evaluation. In addition, a public comment period on the Manual was also conducted. As a result, many changes are being made to the Manual which will improve it.

SCS has been actively involved in evaluation of the Manual and in conducting interagency training on use of the Manual during the past year.

Effects of Adopting the Federal Manual for the Identification and Delineation of Jurisdictional Wetlands

The Federal Wetlands Manual incorporated wetland criteria, including the interpretation of "normal circumstances" that were nearly identical to that used for Swampbuster. In essence, the wetland criteria for Swampbuster and the Federal Manual are, for all practical purposes, the same.

The Federal Manual criteria coincides very closely with previous Swampbuster criteria. Therefore, the principal change resulting from the Manual as it relates to agriculture was not with Swampbuster, but with Section 404 of the Clean Water Act. Farmers were concerned because Section 404 did not explicitly exempt prior converted cropland. This issue was largely resolved when the Corps of Engineers issued guidance on September 26, 1990, clarifying that prior converted cropland are not subject to Section 404.

Confusion between Swampbuster Provisions and 404 Permits

Wetland issues, although often erroneously lumped together, usually fall into two categories: 1) the Swampbuster provisions of the 1985 FSA, as amended by the 1990 Farm Bill; and 2) the dredge and fill permit requirements under Section 404 of the Clean Water Act , as administered jointly by the U.S. Army Corps of Engineers and the Environmental Protection Agency.

The procedure used today for identifying wetlands under Section 404 parallels that used under the Swampbuster provisions. However, most Section 404 permitting issues generally are separate and distinct from the Swampbuster provisions. Where the minimal effects or mitigation exemptions apply to natural or farmed wetlands, the producer may also be required to obtain a 404 permit so as to remain in compliance with all Federal requirements.

Effect on Small Businesses

To our knowledge, the impact on small businesses resulting from implementation of the Swampbuster provisions has been minimal.

Swampbuster is a negative incentive designed to prevent the draining of wetlands for use in agricultural production. It is targeted to producers who receive benefits from USDA programs, including programs for credit, crop insurance, and production adjustment and price support.

I appreciate the opportunity to testify today, and will be happy to respond to questions.

Federal Manual for Identifying and Delineating Jurisdictional Wetlands

AN INTERAGENCY COOPERATIVE PUBLICATION

Fish and
Wildlife Service

Environmental
Protection Agency

Department of
the Army

Soil Conservation
Service

January 1989

Federal Manual for Identifying and Delineating Jurisdictional Wetlands

An Interagency Cooperative Publication

U. S. Army Corps of Engineers

U.S. Environmental Protection Agency

U.S. Fish and Wildlife Service

U.S.D.A. Soil Conservation Service

JANUARY 10, 1989

4

Federal Manual for Identifying and Delineating Jurisdictional Wetlands

We, the undersigned, hereby adopt this Federal Manual as the technical basis for identifying and delineating jurisdictional wetlands in the United States.

Frank Dunkle

Frank Dunkle
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Fish and Wildlife Service

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January 10, 1989

Preface

This manual describes technical criteria, field indicators and other sources of information, and methods for identifying and delineating jurisdictional wetlands in the United States. This manual is the product of many years of practical experience in wetland identification and delineation by four Federal agencies: Army Corps of Engineers (CE), Environmental Protection Agency (EPA), Fish and Wildlife Service (FWS), and Soil Conservation Service (SCS). It is the culmination of efforts to merge existing field-tested wetland delineation manuals, methods, and procedures used by these agencies. This manual draws heavily upon published manuals and methods, specifically *Corps of Engineers Wetlands Delineation Manual*, EPA's *Wetland Identification and Delineation Manual*, and SCS's *Food Security Act Manual* wetland determination procedure.

The manual has been reviewed and concurred in by an interagency committee composed of the four Federal agencies. This committee was established for purposes of reconciling differences in wetland delineation procedures and developing a single interagency manual for identification and delineation of wetlands. The committee consisted of the following individuals: Robert Pierce, Bernie Goode, and Russell Theriot of the Corps of Engineers; John Meagher, Bill Sipple, and Charles Rhodes of the Environmental Protection Agency; David Stout, Ralph Tiner, and Bill Wilen of the Fish and Wildlife Service; and Steve Brady, Maurice Mausbach, and Billy Teels of the Soil Conservation Service. The manual was prepared by Ralph Tiner based on interagency committee decisions. The negotiations were facilitated by Howard Bellman and Leah Haygood.

This report should be cited as follows:

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Part I.
Introduction

Purpose

1.0. The purpose of this manual is to provide users with mandatory technical criteria, field indicators and other sources of information, and recommended methods to determine whether an area is jurisdictional wetland or not, and to delineate the upper boundary of these wetlands. The document can be used to identify jurisdictional wetlands subject to Section 404 of the Clean Water Act and to the "Swampbuster" provision of the Food Security Act, or to identify vegetated wetlands in general for the National Wetlands Inventory and other purposes. *The term "wetland" as used throughout this manual refers to jurisdictional wetlands for use by Federal agencies.* This manual, therefore, provides a single, consistent approach for identifying and delineating wetlands from a multi-agency Federal perspective.

Organization of the Manual

1.1. The manual is divided into four major parts: Part I — Introduction, Part II — Mandatory Technical Criteria for Wetland Identification, Part III — Field Indicators and Other Available Information, and Part IV — Methods for Identification and Delineation of Wetlands. References, a glossary of technical terms, and appendices are included at the back of the manual.

Use of the Manual

1.2. The manual should be used for identification and delineation of wetlands in the United States. Emphasis for delineation is on the upper boundary of wetlands (i.e., wetland-upland boundary) and not on the lower boundary between wetlands and other aquatic habitats. The technical criteria for wetland identification presented in Part II are mandatory, while the methods presented in Part IV are recommended approaches. Alternative methods are offered to provide users with a selection of methods that range from office determinations to detailed field determinations. If the user departs from these methods, the reasons for doing so should be documented.

Background

1.3. At the Federal level, four agencies are principally involved with wetland identification and delineation: Army Corps of Engineers (CE), Environmental Protection Agency (EPA), Fish and Wildlife Service (FWS), and Soil Conservation Service (SCS). Each of these agencies have developed techniques for identifying the limits of wetlands for various purposes.

1.4. The CE and EPA are responsible for making jurisdictional determinations of wetlands regulated under Section 404 of the Clean Water Act (formerly known as the Federal Water Pollution Control Act, 33 U.S.C. 1344). The CE also makes jurisdictional determinations under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403). Under Section 404, the Secretary of the Army, acting through the Chief of Engineers, is authorized to issue permits for the discharge of dredged or fill materials into the waters of the United States, including wetlands, with program oversight by EPA. The EPA has the authority to make final determinations on the extent of Clean Water Act jurisdiction. The CE also issues permits for filling, dredging, and other construction in certain wetlands under Section 10. Under authority of the Fish and Wildlife Coordination Act, the FWS and the National Marine Fisheries Service review applications for these Federal permits and provide comments to the CE on the environmental impacts of proposed work. In addition, the FWS is conducting an inventory of the Nation's wetlands and is producing a series of National Wetlands Inventory maps for the entire country. While the SCS has been involved in wetland identification since 1956, it has recently become more deeply involved in wetland determinations through the "Swampbuster" provision of the Food Security Act of 1985.

1.5. The CE and EPA have developed technical manuals for identifying and delineating wetlands subject to Section 404 (Environmental Laboratory 1987 and Sipple 1988, respectively). The SCS has developed procedures for identifying wetlands for compliance with "Swampbuster." While it has no formal method for delineating wetland boundaries, the FWS has established guidelines for identifying wetlands in the form of its official wetland classification system report (Cowardin, et al. 1979).

1.6. In early 1988, the CE and EPA resumed previous discussions on the possibilities of merging their manuals into a single document, since both manuals were produced in support of Section 404 of the Clean Water Act. At that time, it was recommended that the FWS and SCS be invited to participate in the talks to take advantage of their technical expertise in wetlands and to discuss the possibilities of a joint interagency wetland identification manual. On May 19-20, 1988, the first meeting was held in Washington, D.C., to discuss technical differences between the CE and EPA manuals. After the meeting, it was decided that a second meeting should be held to resolve technical issues and to attempt to merge the two manuals and possibly develop an interagency manual for the four agencies. This meeting was held on August 29-31, 1988, at Harpers Ferry, West Virginia. Each of the four Federal agencies (CE, EPA, FWS, and SCS) was represented by three persons, with outside facilitators moderating the session. During the three-day meeting, the four agencies reached agreement on the technical criteria for identifying and delineating wetlands and agreed to merge the existing published methods (CE, EPA, and SCS) into a single wetland delineation manual. A draft combined manual was prepared, and then reviewed by the interagency group. On January 10, 1989, the manual was formally adopted by the four agencies as the recommended manual for identifying and delineating wetlands in the United States.

Federal Wetland Definitions

1.7. Several definitions have been formulated at the Federal level to define "wetland" for various laws, regulations, and programs. These major Federal definitions are cited below in reference to their guiding document along with a few comments on their key elements.

Section 404 of the Clean Water Act

1.8. The following definition of wetland is the regulatory definition used by the EPA and CE for administering the Section 404 permit program:

> Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(EPA, 40 CFR 230.3 and CE, 33 CFR 328.3)

1.9. This definition emphasizes hydrology, vegetation, and saturated soils. The Section 404 regulations also deal with other "waters of the United States" such as open water areas, mud flats, coral reefs, riffle and pool complexes, vegetated shallows, and other aquatic habitats.

Food Security Act of 1985

1.10. The following wetland definition is used by the SCS for identifying wetlands on agricultural land in assessing farmer eligibility for U.S. Department of Agriculture program benefits under the "Swampbuster" provision of this Act:

> Wetlands are defined as areas that have a predominance of hydric soils and that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions, except lands in Alaska identified as having a high potential for agricultural development and a predominance of permafrost soils.*

(National Food Security Act Manual, 1988)

**Special Note*: The Emergency Wetlands Resources Act of 1986 also contains this definition, but without the exception for Alaska.

1.11. This definition specifies hydrology, hydrophytic vegetation, and hydric soils. Any area that meets the hydric soil criteria (defined by the National Technical Committee for Hydric Soils) is considered to have a predominance of hydric soils. The definition also makes a geographic exclusion for Alaska, so that wetlands in Alaska with a high potential for agricultural development and a predominance of permafrost soils are exempt from the requirements of the Act.

Fish and Wildlife Service's Wetland Classification System

1.12. The FWS in cooperation with other Federal agencies, State agencies, and private organizations and individuals developed a wetland definition for conducting an inventory of the Nation's wetlands. This definition was published in the FWS's publication "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin, et al. 1979):

> Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes, (2) the substrate is predominantly undrained hydric soil, and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.

1.13. This definition includes both vegetated and nonvegetated wetlands, recognizing that some types of wetlands lack vegetation (e.g., mud flats, sand flats, rocky shores, gravel beaches, and sand bars). The classification system also defines "deepwater habitats" as "permanently flooded lands lying below the deepwater boundary of wetlands." Deepwater habitats include estuarine and marine aquatic beds (similar to "vegetated shallows" of Section 404). Open waters below extreme low water at spring tides in salt and brackish tidal areas and usually below 6.6 feet in inland areas and freshwater tidal areas are also included in deepwater habitats.

Summary of Federal Definitions

1.14. The CE, EPA, and SCS wetland definitions include only areas that are vegetated under normal circumstances, while the FWS definition encompasses both vegetated and nonvegetated areas. Except for the FWS inclusion of nonvegetated areas as wetlands and the exemption for Alaska in the SCS definition, all four wetland definitions are conceptually the same; they all include three basic elements - hydrology, vegetation, and soils - for identifying wetlands.

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Part II.

Mandatory Technical Criteria for Wetland Identification

2.0. Wetlands possess three essential characteristics: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology, which is the driving force creating all wetlands. These characteristics and their technical criteria for identification purposes are described in the following sections. The three technical criteria specified are mandatory and must all be met for an area to be identified as wetland. Therefore, areas that meet these criteria are wetlands.

Hydrophytic Vegetation

2.1. For purposes of this manual, hydrophytic vegetation is defined as macrophytic plant life growing in water, soil or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content. Nearly 7,000 vascular plant species have been found growing in U.S. wetlands (Reed 1988). Out of these, only about 27 percent are "obligate wetland" species that nearly always occur in wetlands under natural conditions. This means that the majority of plant species growing in wetlands also grow in nonwetlands in varying degrees.

2.2. The FWS in cooperation with CE, EPA, and SCS has published the "National List of Plant Species That Occur in Wetlands" from a review of the scientific literature and review by wetland experts and botanists (Reed 1988). The list separates vascular plants into four basic groups, commonly called "wetland indicator status," based on a plant species' frequency of occurrence in wetlands: (1) *obligate wetland plants* (OBL) that occur almost always (estimated probability >99%) in wetlands under natural conditions; (2) *facultative wetland plants* (FACW) that usually occur in wetlands (estimated probability 67-99%), but occasionally are found in nonwetlands; (3) *facultative plants* (FAC) that are equally likely to occur in wetlands or nonwetlands (estimated probability 34-66%); and (4) *facultative upland plants* (FACU) that usually occur in nonwetlands (estimated probability 67-99%), but occasionally are found in wetlands (estimated probability 1-33%). If a species occurs almost always (estimated probability >99%) in nonwetlands under natural conditions, it is considered an *obligate upland plant* (UPL). These latter plants do not usually appear on the wetland plant list; they are listed only when found in wetlands with a higher probability in one region of the country. If a species is not on the list, it is presumed to be an obligate upland plant. The "National List of Plant Species That Occur in Wetlands" has been subdivided into regional and state lists. There is a formal procedure to petition the interagency plant review committee for making additions, deletions, and changes in indicator status. Since the lists are periodically updated, the U.S. Fish and Wildlife Service should be contacted to be sure that the most current version is being used for wetland determinations. The appropriate plant list for a specific geographic region should be used when making a wetland determination and evaluating whether the following hydrophytic vegetation criterion is satisfied.

Hydrophytic Vegetation Criterion

2.3. An area has hydrophytic vegetation when, under normal circumstances: (1) more than 50 percent of the composition of the dominant species from all strata are obligate wetland (OBL), facultative wetland (FACW), and/or facultative (FAC) species, or (2) a frequency analysis of all species within the community yields a prevalence index value of less than 3.0 (where OBL = 1.0, FACW = 2.0, FAC = 3.0, FACU = 4.0, and UPL = 5.0). *CAUTION*: When a plant community has less than or equal to 50 percent of the dominant species from all strata represented by OBL, FACW, and/or FAC species, or a frequency analysis of all species within the community yields a prevalence index value of greater than or equal to 3.0, *and* hydric soils and wetland hydrology are present, the area also has hydrophytic vegetation. (*Note*: These areas are considered problem area wetlands.)

2.4. For each stratum (e.g., tree, shrub, and herb) in the plant community, dominant species are the most abundant plant species (when ranked in descending order

of abundance and cumulatively totaled) that immediately exceed 50 percent of the total dominance measure (e.g., basal area or areal coverage) for the stratum, plus any additional species comprising 20 percent or more of the total dominance measure for the stratum. All dominants are treated equally in determining the presence of hydrophytic vegetation.

2.5. (*Note*: The "National List of Plant Species that Occur in Wetlands" uses a plus (+) sign or a minus (-) sign to specify a higher or lower portion of a particular wetland indicator frequency for the three facultative-type indicators; for purposes of identifying hydrophytic vegetation according to this manual, however, FACW+, FACW-, FAC+, and FAC are included as FACW and FAC, respectively, in the hydrophytic vegetation criterion.)

Hydric Soils

2.6. Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (U.S.D.A. Soil Conservation Service 1987). In general, hydric soils are flooded, ponded, or saturated for usually one week or more during the period when soil temperatures are above biologic zero 41° F as defined by "Soil Taxonomy" (U.S.D.A. Soil Survey Staff 1975). These soils usually support hydrophytic vegetation. The National Technical Committee for Hydric Soils has developed criteria for hydric soils and a list of the Nation's hydric soils (U.S.D.A. Soil Conservation Service 1987). (*Note*: Caution must be exercised in using the hydric soils list for determining the presence of hydric soil at specific sites; see p. 12.)

Hydric Soil Criterion

2.7. An area has hydric soils when the National Technical Committee for Hydric Soils (NTCHS) criteria for hydric soils are met.

NTCHS Criteria for Hydric Soils (U.S.D.A. Soil Conservation Service 1987):

"1. All Histosols except Folists; or

2. Soils in Aquic suborders, Aquic subgroups, Albolls suborder, Salorthids great group, or Pell great groups of Vertisols that are:

a. somewhat poorly drained and have water table less than 0.5 feet from the surface for a significant period (usually a week or more) during the growing season, or

b. poorly drained or very poorly drained and have either:

(1) water table at less than 1.0 feet from the surface for a significant period (usually a week or more) during the growing season if permeability is equal to or greater than 6.0 inches/hour in all layers within 20 inches, or

(2) water table at less than 1.5 feet from the surface for a significant period (usually a week or more) during the growing season if permeability is less than 6.0 inches/hour in any layer within 20 inches; or

3. Soils that are ponded for long duration or very long duration during the growing season; or

4. Soils that are frequently flooded for long duration or very long duration during the growing season."

(*Note*: Long duration is defined as inundation for a single event that ranges from seven days to one month; very long duration is defined as inundation for a single event that is greater than one month; frequently flooded is defined as flooding likely to occur often under usual weather conditions - more than 50 percent chance of flooding in any year or more than 50 times in 100 years. Other technical terms in the NTCHS criteria for hydric soils are generally defined in the glossary.)

Wetland Hydrology

2.8. Permanent or periodic inundation, or soil saturation to the surface, at least seasonally, are the driving forces behind wetland formation. The presence of water for a week or more during the growing season typically creates anaerobic conditions in the soil, which affect the types of plants that can grow and the types of soils that develop. Numerous factors influence the wetness of an area, including precipitation, stratigraphy, topography, soil permeability, and plant cover. All wetlands usually have at least a seasonal abundance of water. This water may come from direct precipitation, overbank flooding, surface water runoff due to precipitation or snow melt, ground water discharge, or tidal flooding. The frequency and duration of inundation and soil saturation vary widely from permanent flooding or saturation to irregular flooding or saturation. Of the three technical criteria for wetland identification, wetland hydrology is often the least exact and most difficult to establish in the field, due largely to annual, seasonal, and daily fluctuations.

Wetland Hydrology Criterion

2.9. An area has wetland hydrology when saturated to the surface or inundated at some point in time during an average rainfall year, as defined below:

1. **Saturation to the surface normally occurs when soils in the following natural drainage classes meet the following conditions:**
    - A. **In somewhat poorly drained mineral soils, the water table is less than 0.5 feet from the surface for usually one week or more during the growing season; or**
    - B. **In low permeability (<6.0 inches/hour), poorly drained or very poorly drained mineral soils, the water table is less than 1.5 feet from the surface for usually one week or more during the growing season; or**
    - C. **In more permeable (≥ 6.0 inches/hour), poorly drained or very poorly drained mineral soils, the water table is less than 1.0 feet from the surface for usually one week or more during the growing season; or**
    - D. **In poorly drained or very poorly drained organic soils, the water table is usually at a depth where saturation to the surface occurs more than rarely. (*Note*: Organic soils that are cropped are often drained, yet the water table is closely managed to minimize oxidation of organic matter; these soils often retain their hydric characteristics and if so, meet the wetland hydrology criterion.)**
2. **An area is inundated at some time if ponded or frequently flooded with surface water for one week or more during the growing season.**

(*Note*: An area saturated for a week during the growing season, especially early in the growing season, is not necessarily a wetland. However, in the vast majority of cases, an area that meets the NTCHS criteria for hydric soil is a wetland.)

Summary

2.10. The technical criteria are mandatory and must be satisfied in making a wetland determination. Areas that meet the NTCHS hydric soil criteria and under normal circumstances support hydrophytic vegetation are wetlands. Field indicators and other information provide direct and indirect evidence for determining whether or not each of the three criteria are met. Sound professional judgement should be used in interpreting these data to make a wetland determination. It must be kept in mind that exceptional and rare cases are possibilities that may call any generally sound principle into question.

Part III.

Field Indicators and Other Available Information

3.0. When conducting a field inspection to make a wetland determination, the three identification criteria, listed in Part II of this manual, alone may not provide enough information for users to document whether or not the criteria themselves (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology) are met. Various physical properties or other signs can be readily observed in the field to determine whether the three wetland identification criteria are satisfied. Besides these field indicators, good baseline information may be available from site-specific studies, published reports, or other written material on wetlands. In the following sections, field indicators and primary sources of information for each of the three criteria are presented to help the user identify wetlands.

Hydrophytic Vegetation

3.1. All plants growing in wetlands have adapted in one way or another to life in permanently or periodically inundated or saturated soils. Some plants have developed structural or morphological adaptations to inundation or saturation. These features, while indicative of hydrophytic vegetation, are used as indicators of wetland hydrology in this manual, since they are a response to inundation and soil saturation. Probably all plants growing in wetlands possess physiological mechanisms to cope with prolonged periods of anaerobic soil conditions. Because they are not observable in the field, physiological and reproductive adaptations are not included in this manual.

3.2. Persons making wetland determinations should be able to identify at least the dominant wetland plants in each stratum (layer of vegetation) of a plant community. Plant identification requires use of field guides or more technical taxonomic manuals (see Appendix A for sample list). When necessary, seek help in identifying difficult species. Once a plant is identified to genus and species, one should then consult the appropriate Federal list of plants that occur in wetlands to determine the "wetland indicator status" of the plant (see p. 5). This information will be used to help determine if hydrophytic vegetation is present.

Dominant Vegetation

3.3. Dominance as used in this manual refers strictly to the spatial extent of a species that is directly discernable or measurable in the field. When identifying dominant vegetation within a given plant community, one should consider dominance within each stratum. All dominants are treated equally in characterizing the plant community to determine whether hydrophytic vegetation is present. The most abundant plant species (when ranked in descending order of abundance and cumulatively totaled) that immediately exceed 50 percent of the total dominance measure for a given stratum, plus any additional species comprising 20 percent or more of the total dominance measure for that stratum are considered dominant species for the stratum. Dominance measures include percent areal coverage and basal area, for example.

3.4. Vegetative strata for which dominants should be determined may include: (1) tree (≥5.0 inches diameter at breast height (dbh) and 20 feet or taller); (2) sapling (0.4 to <5.0 inches dbh and 20 feet or taller); (3) shrub (usually 3 to 20 feet tall including multi-stemmed, bushy shrubs and small trees and saplings); (4) woody vine; and (5) herb (herbaceous plants including graminoids, forbs, ferns, fern allies, herbaceous vines, and tree seedlings). Bryophytes (mosses, horned liverworts, and true liverworts) should be sampled as a separate stratum in certain wetlands, including shrub bogs, moss-lichen wetlands, and wooded swamps where bryophytes are abundant and represent an important component of the community; in most other wetlands, bryophytes should be included within the herb stratum due to their scarcity.

3.5. There are many ways to quantify dominance measures; Part IV provides recommended approaches. Alternatively, one may wish to visually estimate percent coverage when possible or perform a frequency analysis of all species within a given plant community. These are accepted methods for evaluating plant communities.

Field Indicators

3.6. Having established the community dominants for each stratum or performed a frequency analysis, hydrophytic vegetation is considered present if:

1) OBL species comprise all dominants in the plant community (*Note*: In these cases, the area can be considered wetland without detailed examination of soils and hydrology, provided significant hydrologic modifications are not evident); or

2) OBL species do not dominate each stratum, but more than 50 percent of the dominants of all strata are OBL, FACW, or FAC species (including FACW+, FACW-, FAC+, and FAC-); or

3) A plant community has a visually estimated percent coverage of OBL and FACW species that exceed the coverage of FACU and UPL species; or

4) A frequency analysis of all species within the community yields a prevalence index value of less than 3.0 (where OBL = 1.0, FACW = 2.0, FAC = 3.0, FACU = 4.0, and UPL = 5.0); or

5) A plant community has less than or equal to 50 percent of the dominant species from all strata represented by OBL, FACW, and/or FAC species, *or* a frequency analysis for all species within the community yields a prevalence index value greater than or equal to 3.0, *and* hydric soils and wetland hydrology are present. (*Note*: In other words, if the hydric soil and wetland hydrology criteria are met, then the vegetation is considered hydrophytic. For purposes of this manual, these situations are treated as disturbed or problem area wetlands because these plant communities are usually nonwetlands.)

Other Sources of Information

3.7. Besides learning the field indicators of hydrophytic vegetation presented above, one should also become familiar with the technical literature on wetlands, especially for one's geographic region. Sources of available literature include: taxonomic plant manuals and field guides; scientific journals dealing with botany, ecology, and wetlands in particular; technical government reports on wetlands; proceedings of wetland workshops, conferences, and symposia; and the FWS's national wetland plant database, which contains habitat information on about 7,000 plant species. Appendix A presents examples of the first four sources of information. In addition, the FWS's National Wetlands Inventory (NWI) maps provide information on locations of hydrophytic plant communities that may be studied in the field to improve one's knowledge of such communities in particular regions.

Hydric Soils

3.8. Due to their wetness during the growing season, hydric soils usually develop certain morphological properties that can be readily observed in the field. Prolonged anaerobic soil conditions typically lower the soil redox potential and causes a chemical reduction of some soil components, mainly iron oxides and manganese oxides. This reduction affects solubility, movement, and aggregation of these oxides which is reflected in the soil color and other physical characteristics that are usually indicative of hydric soils. (*Note*: Much of the background material for this section was taken from "Hydric Soils of New England" [Tiner and Veneman 1987].)

3.9. Soils are separated into two major types on the basis of material composition: organic soil and mineral soil. In general, soils with at least 18 inches of organic material in the upper part of the soil profile and soils with organic material resting on bedrock are considered organic soils (Histosols). Soils largely composed of sand, silt, and/or clay are mineral soils. (For technical definitions, see "Soil Taxonomy", U.S.D.A. Soil Survey Staff 1975).

3.10. Accumulation of organic matter in most organic soils results from prolonged anaerobic soil conditions associated with long periods of submergence or soil saturation during the growing season. These saturated conditions impede aerobic decomposition (oxidation) of the bulk organic materials such as leaves, stems, and roots, and encourage their accumulation over time as peat or muck. Consequently, most organic soils are characterized as very poorly drained soils. Organic soils typically form in waterlogged depressions, and peat or muck deposits may range from about two feet to more than 30 feet deep. Organic soils also develop in low-lying areas along coastal waters where tidal flooding is frequent.

3.11. Hydric organic soils are subdivided into three groups based on the presence of identifiable plant material: (1) muck (Saprists) in which two-thirds or more of the material is decomposed and less than one-third of the plant fibers are identifiable; (2) peat (Fibrists) in which less than one-third of the material is decomposed and more than two-thirds of the plant fibers are still identifiable; and (3) mucky peat or peaty muck (Hemists) in which the ratio of decomposed to identifiable plant matter is more nearly even (U.S.D.A. Soil Survey Staff 1975). A fourth group of organic soils (Folists) exists in tropical and boreal mountainous areas where precipitation exceeds the evapotranspiration rate, but these soils are never saturated for more than a few days after heavy rains and thus do not develop under hydric conditions. All organic soils, with the exception of the Folists, are hydric soils.

3.12. When less organic material accumulates in soil, the soil is classified as mineral soil. Some mineral soils may have thick organic surface layers due to heavy seasonal rainfall or a high water table, yet they are still composed largely of mineral matter (Ponnamperuma 1972). Mineral soils that are covered with moving (flooded) or standing (ponded) water for significant periods or are saturated for extended periods during the growing season are classified as hydric mineral soils. Soil saturation may result from low-lying topographic position, groundwater seepage, or the presence of a slowly permeable layer (e.g., clay, confining bedrock, or hardpan).

3.13. The duration and depth of soil saturation are essential criteria for identifying hydric soils and wetlands. Soil morphological features are commonly used to indicate long-term soil moisture regimes (Bouma 1983). The two most widely recognized features that reflect wetness in mineral soils are gleying and mottling.

3.14. Simply described, gleyed soils are predominantly neutral gray in color and occasionally greenish or bluish gray. In gleyed soils, the distinctive colors result from a process known as gleization. Prolonged saturation of mineral soil converts iron from its oxidized (ferric) form to its reduced (ferrous) state. These reduced compounds may be completely removed from the soil, resulting in gleying (Veneman, *et al.* 1976). Mineral soils that are always saturated are uniformly gleyed throughout the saturated area. Soils gleyed to the surface layer are hydric soils. These soils often show evidence of oxidizing conditions only along root channels. Some nonhydric soils have gray layers (E-horizons) immediately below the surface layer that are gray for reasons other than saturation (e.g., leaching due to organic acids). These soils often have brighter (e.g., brownish or reddish) layers below the gray layer and can be recognized as nonhydric on that basis.

3.15. Mineral soils that are alternately saturated and oxidized (aerated) during the year are usually mottled in the part of the soil that is seasonally wet. Mottles are spots or blotches of different colors or shades of colors interspersed with the dominant (matrix) color. The abundance, size, and color of the mottles usually reflect the duration of the saturation period and indicate whether or not the soil is hydric. Mineral soils that are predominantly grayish with brown or yellow mottles are usually saturated for long periods during the growing season and are classified as hydric. Soils that are predominantly brown or yellow with gray mottles are saturated for shorter periods and may not be hydric. Mineral soils that are never saturated are usually bright-colored and are not mottled. Realize, however, that in some hydric soils, mottles may not be visible due to masking by organic matter (Parker, *et al.* 1984).

3.16. It is important to note that the gleization and mottle formation processes are strongly influenced by the activity of certain soil microorganisms. These microorganisms reduce iron when the soil environment is anaerobic, that is, when virtually no free oxygen is present, and when the soil contains organic matter. If the soil conditions are such that free oxygen is present, organic matter is absent, or temperatures are too low (below 41°F) to sustain microbial activity, gleization will not proceed and mottles will not form, even though the soil may be saturated for prolonged periods of time (Diers and Anderson 1984).

Soil Colors

3.17. Soil colors often reveal much about a soil's wetness, that is, whether the soil is hydric or nonhydric. Scientists and others examining the soil can determine the approximate soil color by comparing the soil sample with a Munsell soil color chart. The standardized Munsell soil colors are identified by three components: hue, value, and chroma. The hue is related to one of the main spectral colors: red, yellow, green, blue, or purple, or various mixtures of these principal colors. The value refers to the degree of lightness, while the chroma notation indicates the color strength or purity. In the Munsell soil color book, each individual hue has its own page, each of which is further subdivided into units for value (on the vertical axis) and chroma (horizontal axis). Although theoretically each soil color represents a unique combination of hues, values, and chromas, the number of combinations common in the soil environment usually is limited. Because of this situation and the fact that accurate reproduction of each soil color is expensive, the Munsell soil color book contains a limited number of combinations of hues, values, and chromas. The color of the soil matrix or a mottle is determined by comparing a soil sample with the individual color chips in the soil color book. The appropriate Munsell color name can be read from the facing page in the "Munsell Soil Color Charts" (Kollmorgen Corporation 1975). Chromas of 2 or less are considered low chromas and are often diagnostic of hydric soils. Low chroma colors include black, various shades of gray, and the darker shades of brown and red.

Hydric Organic Soils

3.18. Hydric organic soils can be easily recognized as black-colored muck and/or as black to dark brown-colored peat. Distinguishing mucks from peats based on the relative degree of decomposition is fairly simple. In mucks (Saprists), almost all of the plant remains have been decomposed beyond recognition. When rubbed, mucks feel greasy and leave hands dirty. In contrast, the plant remains in peats (Fibrists) show very little decomposition and the original constituent plants can be recognized fairly easily. When the organic material is rubbed between the fingers, most plant fibers will remain identifiable, leaving hands relatively clean. Between the extremes of mucks and peats, organic soils with partially decomposed plant fibers (Hemists) can be recognized. In peaty mucks up to two-thirds of the plant fibers can be destroyed by rubbing the materials between the fingers, while in mucky peats up to two-thirds of the plant remains are still recognizable after rubbing.

3.19. Besides the dominance of organic matter, many organic soils (especially in tidal marshes) also emit an odor of rotten eggs when hydrogen sulfide is present. Sulfides are produced only in a strongly reducing environment.

Hydric Mineral Soils

3.20. Hydric mineral soils are often more difficult to identify than hydric organic soils because most organic soils are hydric, while most mineral soils are not. A thick dark surface layer, grayish subsurface and subsoil colors, the presence of orange or reddish brown (iron) and/or dark reddish brown or black (manganese) mottles or concretions near the surface, and the wet condition of the soil may help identify the hydric character of many mineral soils. The grayish subsurface and subsoil colors and thick, dark surface layers are the best indicators of current wetness, since the orange-colored mottles are very insoluble and once formed may remain indefinitely as relict mottles of former wetness (Diers and Anderson 1984).

National and State Hydric Soils Lists

3.21. The SCS in cooperation with the National Technical Committee for Hydric Soils (NTCHS) has prepared a list of the Nation's hydric soils. State lists have also been prepared for statewide use. The national and State lists identify those soil series that meet the hydric soil criteria according to available soil interpretation records in SCS's soils database. These lists are periodically updated, so make sure the list being used is the current list. The lists facilitate use of SCS county soil surveys for identifying potential wetlands. One must be careful, however, in using the soil survey, because a soil map unit of an upland (nonwetland) soil may have inclusions of hydric soil that were not delineated on the map or vice versa. Also, some map units (e.g., alluvial land, swamp, tidal marsh, muck and peat) may be hydric soil areas, but are not on the hydric soils lists because they were not given a series name at the time of mapping.

3.22. Because of these limitations of the national and State lists, the SCS also maintains lists of hydric soil map units for each county in the United States. These lists may be obtained from local SCS district offices and are the preferred lists to be used when locating areas of hydric soils. The hydric soil map units lists identify all map units that are either named by a hydric soil or that have a potential of having hydric soil inclusions. The lists provide the map unit symbol, the name of the hydric soil part or parts of the map unit, information on the hydric soil composition of the map unit, and probable landscape position of hydric soils in the map unit delineation. The county lists also include map units named by miscellaneous land types or higher levels in "Soil Taxonomy" that meet hydric soil criteria.

Soil Surveys

3.23. The SCS publishes county soil surveys for areas where soil mapping is completed. Soil surveys that meet standards of the National Cooperative Soil Survey (NCSS) are used to identify delineations of hydric soils. These soil surveys may be published (completed) or unpublished (on file at local SCS district offices). Published soil surveys of an area may be obtained from the local SCS district office or the Agricultural Extension Service office. Unpublished maps may be obtained from the local SCS district office.

3.24. The NCSS maps four kind of map units: (1) consociations, (2) complexes, (3) associations, and (4) undifferentiated groups. *Consociations* are soil map units named for a single kind of soil (taxon) or miscellaneous area. Seventy-five percent of the area is similar to the taxon for which the unit is named. When named by a hydric soil, the map unit is considered a hydric soil map unit for wetland determinations. However, small areas within these map units may not be hydric and should be excluded in delineating wetlands.

3.25. *Complexes and associations* are soil map units named by two or more kinds of soils (taxa) or miscellaneous areas. If all taxa for which these map units are named are hydric, the soil map unit may be considered a hydric soil map unit for wetland determinations. If only part of the map unit is made up of hydric soils, only those portions of the map unit that are hydric are considered in wetland determinations.

3.26. *Undifferentiated groups* are soil map units named by two or more kinds of soils or miscellaneous areas. These units are distinguished from the others in that "and" is used as a conjunction in the name, while dashes are used for complexes and associations. If all components are hydric, the map unit may be considered a hydric soil map unit. If one or more of the soils for which the unit is named are nonhydric, each area must be examined for the presence of hydric soils.

Use of the Hydric Soils List and Soil Surveys

3.27. The hydric soils list and county soil surveys may be used to help determine if the hydric soil criterion is met in a given area. When making a wetland determination, one should first locate the area of concern on a soil survey map and identify the soil map units for the area. The list of hydric soils should be consulted to determine whether the soil map units are hydric. If hydric soil map units are noted, then one should examine the soil in the field and compare its morphology with the corresponding hydric soil description in the soil survey report. If the soil's characteristics match those described for hydric soil, then the hydric soil criterion is met, unless the soil has been effectively drained (see disturbed areas section, p. 50). In the absence of site-specific information, hydric soils also may be recognized by field indicators.

Field Indicators

3.28. Several field indicators are available for determining whether a given soil meets the definition and criteria for hydric soils. Other factors to consider in recognizing hydric soils include obligate wetland plants, topography, observed or recorded inundation or soil saturation, and evidence of human alterations, e.g., drainage and filling. Any one of the following may indicate that hydric soils are present:

1) *Organic Soils* – Various peats and mucks are easily recognized as hydric soils. Organic soils that are cropped are often drained, yet the water table is closely managed to minimize oxidation of organic matter. These soils often retain their hydric soil characteristics and, if so, meet the wetland hydrology criterion.

2) *Histic epipedons* – A histic epipedon (organic surface layer) is an 8- to 16-inch organic layer at or near the surface of a hydric mineral soil that is saturated with water for 30 consecutive days or more in most years. It contains a minimum of 20 percent organic matter when no clay is present or a

minimum of 30 percent organic matter when clay content is 60 percent or greater. Soils with histic epipedons are inundated or saturated for sufficient periods to greatly retard aerobic decomposition of organic matter, and are considered hydric soils. In general, a histic epipedon is a thin surface layer of peat or muck if the soil has not been plowed (U.S.D.A. Soil Survey Staff 1975). Histic epipedons are technically classified as Oa, Oe, or Oi surface layers, and in some cases the terms "mucky" or "peaty" are used as modifiers to the mineral soil texture term, e.g., mucky loam.

3) *Sulfidic material* – When soils emit an odor of rotten eggs, hydrogen sulfide is present. Such odors are only detected in waterlogged soils that are essentially permanently saturated and have sulfidic material within a few inches of the soil surface. Sulfides are produced only in reducing environment. Under saturated conditions, the sulfates in water are biologically reduced to sulfides as the organic materials accumulate.

4) *Aquic or peraquic moisture regime* – An *aquic* moisture regime is a reducing one, i.e., it is virtually free of dissolved oxygen, because the soil is saturated by ground water or by water of the capillary fringe (U.S.D.A. Soil Survey Staff 1975). The soil is considered saturated if water stands in an unlined borehole at a shallow enough depth that the capillary fringe reaches the soil surface, except in noncapillary pores. Because dissolved oxygen is removed from ground water by respiration of microorganisms, roots, and soil fauna, it is also implicit that the soil temperature be above biologic zero (41°F) at some time while the soil is saturated. Soils with *peraquic* moisture regimes are characterized by the presence of ground water always at or near the soil surface. Examples include soils of tidal marshes and soils of closed, landlocked depressions that are fed by permanent streams. Soils with peraquic moisture regimes are always hydric under natural conditions. Soils with aquic moisture regimes are usually hydric, but the NTCHS hydric soil criteria should be verified in the field.

5) *Direct observations of reducing soil conditions* – Soils saturated for long or very long duration will usually exhibit reducing conditions at the time of saturation. Under such conditions, ions of iron are transformed from a ferric (oxidized) state to a ferrous (reduced) state. This reduced condition can often be detected in the field by use of a colorimetric field test kit. When a soil extract changes to a pink color upon addition of a-a-dipyridil, ferrous iron is present, which indicates a reducing soil environment at the time of the test. A negative result (no pink color) only indicates that the soil is not reduced at this moment; it does not imply that the soil is not reduced during the growing season. Furthermore, the test is subject to error due to the rapid change of ferrous iron to ferric iron when the soil is exposed to air and should only be used by experienced technicians. (*CAUTION*: This test cannot be used in hydric mineral soils having low iron content or in organic soils. Also it does not determine the duration of reduced conditions.)

6) *Gleyed, low chroma, and low chroma/mottled soils* – The colors of various soil components are often the most diagnostic indicator of hydric soils. Colors of these components are strongly influenced by the frequency and duration of soil saturation which leads to reducing soil conditions. Hydric mineral soils will be either gleyed or will have low chroma matrix with or without bright mottles.

A) *Gleyed soils* – Gleying (bluish, greenish, or grayish colors) immediately below the A-horizon is an indication of a markedly reduced soil, and gleyed soils are hydric soils. Gleying can occur in both mottled and unmottled soils. Gleyed soil conditions can be determined by using the gley page of the "Munsell Soil Color Charts" (Kollmorgen Corporation 1975). (*CAUTION*: Gleyed conditions normally extend throughout saturated soils. Beware of soils with gray E-horizons due to leaching and not to saturation; these latter soils can often be recognized by bright-colored layers below the E-horizon.)

B) *Other low chroma soils and mottled soils (i.e., soils with low matrix chroma and with or without bright mottles)* – Hydric mineral soils that are saturated for substantial periods of the growing season, but are unsaturated for some time, commonly develop mottles. Soils that have brightly colored mottles and a low chroma matrix are indicative of a fluctuating water table. Hydric mineral soils usually have one of the following color features in the horizon immediately below the A-horizon:

(1) Matrix chroma of 2 or less in mottled soils, or
(2) Matrix chroma of 1 or less in unmottled soils.

(*Note*: See p. 59 for mollisols exception.)

Colors should be determined in soils that are or have been moistened. The chroma requirements above are for soils in a moistened condition. Colors noted for dry (unmoistened) soils should be clearly stated as such. The colors of the topsoil are often not indicative of the hydrologic situation because cultivation and soil enrichment affect the original soil color. Hence, the soil colors below the A-horizon (usually below 10 inches) often must be examined.

(*CAUTION*: Beware of problematic hydric soils that have colors other than those described above; see problem area wetlands section, p. 55.)

7) *Iron and manganese concretions* – During the oxidation-reduction process, iron and manganese in suspension are sometimes segregated as oxides into concretions or soft masses. Concretions are local concentrations of chemical compounds (e.g., iron oxide) in the form of a grain or nodule of varying size, shape, hardness, and color (Buckman and Brady 1969). Manganese concretions are usually black or dark brown, while iron concretions are usually yellow, orange or reddish brown. In hydric soils, these concretions are also usually accompanied by soil colors described above.

8) *Coarse-textured or sandy hydric soils* – Many of the indicators listed above cannot be applied to sandy soils. *In particular, soil color should not be used as an indicator in most sandy soils* (see problem area wetlands section, p. 55). However, three soil features may be used as indicators of hydric sandy soils:

A) *High organic matter content in the surface horizon* – Organic matter tends to accumulate above or in the surface horizon of sandy soils that are inundated or saturated to the surface for a significant portion of the growing season. The mineral surface layer generally appears darker than the mineral material immediately below it due to organic matter interspersed among or adhering to sand particles. (*Note*: Because organic matter also accumulates on upland soils, in some instances it may be difficult to distinguish a surface organic layer associated with a wetland site from litter and duff associated with an upland site unless the species composition of the organic materials is determined.)

B) *Dark vertical streaking of subsurface horizons by organic matter* – Organic matter is moved downward through sand as the water table fluctuates. This often occurs more rapidly and to a greater degree in some vertical sections of a sandy soil containing high content of organic matter than in others. Thus, the sandy soil appears vertically streaked with darker areas. When soil from a darker area is rubbed between the fingers, the dark organic matter stains the fingers.

C) *Wet Spodosols* – As organic matter is moved downward through some sandy soils, it may accumulate at the point representing the most commonly occurring depth to the water table. This organic matter may become slightly cemented with aluminum. Spodic horizons often occur at depths of 12 to 30 inches below the mineral surface. Wet spodosols (formerly called "groundwater podzolic soils") usually have thick dark surface horizons that are high in organic matter with thick, dull gray E-horizons above a very dark-colored (black) spodic horizon. (*CAUTION*: Not all soils with spodic horizons meet the hydric soil criterion; see p. 58.)

(*Note*: In recently deposited sandy material, such as accreting sand bars, it may be impossible to find any of the above indicators. Such cases are considered natural, problem area wetlands and the determination of hydric soil should be based on knowledge of local hydrology. See p. 57-58).

Wetland Hydrology

3.29. The driving force creating wetlands is "wetland hydrology", that is, permanent or periodic inundation, or soil saturation for a significant period (usually a week or more) during the growing season. All wetlands are, therefore, at least periodically wet. Many wetlands are found along rivers, lakes, and estuaries where flooding is likely to occur, while other wetlands form in isolated depressions surrounded by upland where surface water collects. Still others develop on slopes of varying steepness, in surface water drainageways or where ground water discharges to the land surface in spring or seepage areas.

3.30. Numerous factors influence the wetness of an area, including precipitation, stratigraphy, topography, soil permeability, and plant cover. The frequency and duration of inundation or soil saturation are important in separating wetlands from nonwetlands. Duration usually is the more important factor. Areas of lower elevation in a floodplain or marsh have longer duration of inundation and saturation and often more frequent periods of these conditions than most areas at higher levels. Floodplain configuration may significantly affect the duration of inundation by facilitating rapid runoff or by causing poor drainage. Soil permeability related to the texture of the soil also influences the duration of inundation or soil saturation. For example, clayey soils absorb water more slowly than sandy or loamy soils, and therefore have slower permeability and remain saturated much longer. Type and amount of plant cover affect both degree of inundation and duration of saturated soil conditions. Excess water drains more slowly in areas of abundant plant cover, thereby increasing duration of inundation or soil saturation. On the other hand, transpiration rates are higher in areas of abundant plant cover, which may reduce the duration of soil saturation.

3.31. To determine whether the wetland hydrology criterion is met, one should consider recorded data, aerial photographs, and field indicators that provide direct or indirect evidence of inundation or soil saturation.

Recorded Data

3.32. Recorded hydrologic data usually provides both short- and long-term information on the frequency and duration of flooding, but little or no information on soil saturation periods. Recorded data include stream gauge data, lake gauge data, tidal gauge data, flood predictions, and historical flood records. Use of these data is commonly limited to areas adjacent to streams and other similar areas. Recorded data may be available from the following sources:

1) CE district offices (data for major waterbodies and for site-specific areas from planning and design documents)

2) U.S. Geological Survey (stream and tidal gauge data)

3) National Oceanic and Atmospheric Administration (tidal gauge data)

4) State, county and local agencies (flood data)

5) SCS state offices (small watershed projects data)

6) private developers or landowners (site-specific hydrologic data, which may include water table or groundwater well data).

Aerial Photographs

3.33. Aerial photographs may provide direct evidence of inundation or soil saturation in an area. Inundation (flooding or ponding) is best observed during the early spring in temperate and boreal regions when snow and ice are gone and leaves of deciduous trees and shrubs are not yet present. This allows detection of wet soil conditions that would be obscured by the tree or shrub canopy at full leaf-out. For marshes, this season of photography is also desirable, except in regions characterized by distinct dry and rainy seasons, such as southern Florida and California. Wetland hydrology would be best observed during the wet season in these latter areas.

3.34. It is most desirable to examine several consecutive years of early spring or wet season aerial photographs to document evidence of wetland inundation or soil saturation. In this way, the effects of abnormally dry springs, for example, may be minimized. In interpreting aerial photographs, it is important to know the antecedent weather conditions. This will help eliminate potential misinterpretations caused by abnormally wet or dry periods. Contact the U.S. Weather Service for historical weather records. Aerial photographs for agricultural regions of the country are often available at county offices of the Agricultural Stabilization and Conservation Service.

Field Indicators

3.35. At certain times of the year in most wetlands, and in certain types of wetlands at most times, wetland hydrology is quite evident, since surface water or saturated soils (e.g., soggy or wetter underfoot) may be observed. Yet in many instances, especially along the uppermost boundary of wetlands, hydrology is not readily apparent. Consequently, the wetland hydrology criterion is often impracticable for delineating precise wetland boundaries. Despite this limitation, hydrologic indicators can be useful for confirming that a site with hydrophytic vegetation and hydric soils still exhibits wetland hydrology and that the hydrology has not been significantly modified to the extent that the area is now effectively drained. In other words, while hydrologic indicators are sometimes diagnostic of the presence of wetlands, they are generally either operationally impracticable (e.g., in the case of recorded data) or technically inaccurate (e.g., in the case of some field indicators) for delineating wetland boundaries. In the former case, surveying the wetland boundary according to elevation data related to recorded flood data, for example, is generally too time-consuming and may not actually be a true correlation. In the latter case, it should be quite obvious that indicators of flooding often extend well beyond the wetland boundary into low-lying upland areas that were flooded by an infrequent flood. Consequently the emphasis on delineating wetland boundaries should be placed on hydrophytic vegetation and hydric soils in the absence of significant hydrologic modification, although wetland hydrology should always be considered.

3.36. If significant drainage or groundwater alteration has taken place, then it is necessary to determine whether the area in question is effectively drained and is now nonwetland or is only partly drained and remains wetland despite some hydrologic modification. Guidance for determining whether an area is effectively drained is presented in the section on disturbed areas (p. 50). In the absence of visible evidence of significant hydrologic modification, wetland hydrology is presumed to occur in an area having hydrophytic vegetation and hydric soils.

3.37. The following hydrologic indicators can be assessed quickly in the field. Although some are not necessarily indicative of hydrologic events during the growing season or in wetlands alone, they do provide evidence that inundation or soil saturation have occurred at some time. One should use good professional judgement in deciding whether the hydrologic indicators demonstrate that the wetland hydrology criterion has been satisfied. When considering these indicators, it is important to be aware of recent extreme flooding events and heavy rainfall periods that could cause low-lying nonwetlands to exhibit some of these signs. It is, therefore, best to avoid, if possible, field inspections during and immediately after these events. If not possible, then these events must be considered in making a wetland determination. Also, remember that hydrology varies seasonally and annually as well as daily, and that at significant times of the year (e.g., late summer for most of the country) the water tables are at their lowest points. At these low water periods, signs of soil saturation and flooding may be difficult to find in many wetlands.

1) *Visual observation of inundation* – The most obvious and revealing hydrologic indicator may be simply observing the areal extent of inundation. However, both seasonal conditions and recent weather conditions should be considered when observing an area because they can affect whether surface water is present on a nonwetland site.

2) *Visual observation of soil saturation* – In some cases, saturated soils are obvious, since the ground surface is soggy or mucky under foot. In many cases, however, examination of this indicator requires digging a hole to a depth of 18 inches and observing the level at which water stands in the hole after sufficient time has been allowed for water to drain into the hole. The required time will vary depending on soil texture. In some cases, the upper level at which water is flowing into the hole can be observed by examining the wall of the hole. This level represents the depth to the water table. The depth to saturated soils will always be nearer the surface due to a capillary fringe. In some heavy clay soils, water may not rapidly accumulate in the hole even when the soil is saturated. If water is observed at the bottom of the hole but has not filled to the 12-inch depth, examine the sides of the hole and determine the shallowest depth at which water is entering the hole. Saturated soils may also be detected by a "squeeze test," which involves taking a soil sample within 18 inches (actual depth depends on soil permeability) and squeezing the sample. If free water can be extracted, the soil is saturated at the depth of the sample at this point in time. When applying the soil saturation indicator, both the season of the year and the preceding weather conditions must be considered. (*Note*: It is not necessary to directly demonstrate soil saturation at the time of inspection. If the NTCHS criteria for hydric soil are met, it can be assumed that an area is saturated to the surface or inundated at some point in time during an average rainfall year.)

3) *Oxidized channels (rhizospheres) associated with living roots and rhizomes* – Some plants are

able to survive saturated soil conditions (i.e., a reducing environment) because they can transport oxygen to their root zone. Look for iron oxide concretions (orangish or reddish brown in color) forming along the channels of living roots and rhizomes as evidence of soil saturation (anaerobic conditions) for a significant period during the growing season.

4) *Water marks* – Water marks are found most commonly on woody vegetation but may also be observed on other vegetation. They often occur as stains on bark or other fixed objects (e.g., bridge pillars, buildings, and fences). When several water marks are present, the highest usually reflects the maximum extent of recent inundation.

5) *Drift lines* – This indicator is typically found adjacent to streams or other sources of water flow in wetlands and often occurs in tidal marshes. Evidence consists of deposition of debris in a line on the wetland surface or debris entangled in aboveground vegetation or other fixed objects. Debris usually consists of remnants of vegetation (branches, stems, and leaves), sediment, litter, and other water-borne materials deposited more or less parallel to the direction of water flow. Drift lines provide an indication of the minimum portion of the area inundated during a flooding event; the maximum level of inundation is generally at a higher elevation than that indicated by a drift line.

6) *Water-borne sediment deposits* – Plants and other vertical objects often have thin layers, coatings, or depositions of mineral or organic matter on them after inundation. This evidence may remain for a considerable period before it is removed by precipitation or subsequent inundation. Sediment deposition on vegetation and other objects provides an indication of the minimum inundation level. When sediments are primarily organic (e.g., fine organic material and algae), the detritus may become encrusted on or slightly above the soil surface after dewatering occurs.

7) *Water-stained leaves* – Forested wetlands that are inundated earlier in the year will frequently have water-stained leaves on the forest floor. These leaves are generally grayish or blackish in appearance, darkened from being underwater for significant periods.

8) *Surface scoured areas* – Surface scouring occurs along floodplains where overbank flooding erodes sediments (e.g., at the bases of trees). The absence of leaf litter from the soil surface is also sometimes an indication of surface scouring. Forested wetlands that contain standing waters for relatively long duration will occasionally have areas of bare or essentially bare soil, sometimes associated with local depressions.

9) *Wetland drainage patterns* – Many wetlands (e.g., tidal marshes and floodplain wetlands) have characteristic meandering or braided drainage patterns that are readily recognized in the field or on aerial photographs and occasionally on topographic maps. (*CAUTION*: Drainage patterns also occur in upland areas after periods of considerable precipitation; therefore, topographic position also must be considered when applying this indicator.)

10) *Morphological plant adaptations* – Many plants growing in wetlands have developed morphological adaptations in response to inundation or soil saturation. Examples include pneumatophores, buttressed tree trunks, multiple trunks, adventitious roots, shallow root systems, floating stems, floating leaves, polymorphic leaves, hypertrophied lenticels, inflated leaves, stems or roots, and aerenchyma (air-filled) tissue in roots and stems (see Table 1 for examples). As long as there is no evidence of significant hydrologic modification, these adaptations can be used as hydrologic indicators. Moreover, when these features are observed in young plants, they provide good evidence that recent wetland hydrology exists. (*Note*: While some people may consider these morphological adaptations as indicators of hydrophytic vegetation, for purposes of this manual, they are treated as indicators of wetland hydrology because they typically develop in response to permanent or periodic inundation or soil saturation.)

11) *Hydric soil characteristics* – In the absence of the above indicators, if an area meets the field indicators for hydric soils and there is no indication of significant hydrologic modification, then it can be assumed that the area meets the wetland hydrology criterion. If the area has been significantly disturbed hydrologically, refer to the section on disturbed areas (p. 50). (*CAUTION*: Listing of a soil on the NTCHS list of hydric soils does not necessarily mean the wetland hydrology criterion is met, nor does exclusion of a soil from the list demonstrate that the wetland hydrology criterion has not been met. However, soils on the NTCHS list represent those soils which typically meet the wetland hydrology criterion, unless effectively drained or otherwise altered.)

Table 1. Morphological or structural adaptations of plants for growing in permanently or periodically flooded or saturated soils.

Adaptations	Examples of Plants Possessing Adaptation
Buttressed (swollen) Tree Trunk	Bald Cypress (*Taxodium distichum*), Black Gum (Nyssa sylvatica var. *biflora*), Green Ash (*Fraxinus pennsylvanica* var. *subintegerima*), Water Gum (*Nyssa aquatica*), and Ogechee Tupelo (*Nyssa ogechee*)
Multiple Trunks	Red Maple (*Acer rubrum*), Silver maple (*Acer saccharinum*), Swamp Privet (*Forestiera acuminata*), and Ogechee Tupelo
Pneumataphores	Bald Cypress, Water Gum, and Black Mangrove (*Rhizophora mangle*)
Adventitious Roots (arising from stem above ground)	Box Elder (*Acer negundo*), Sycamore (*Platanus occidentalis*), Pin Oak (*Quercus palustris*), Black Willow (*Salix nigra*), Green Ash, Alligatorweed (*Alternanthera philoxeroides*), Water Primroses (*Ludwigia* spp.), Water Gum, Eastern Cottonwood (*Populus deltoides*), and Willows (*Salix* spp.)
Shallow Roots (often exposed to ground surface)	Red Maple and Laurel Oak (*Quercus laurifolia*)
Hypertrophied Lenticels	Red Maple, Silver Maple, Willows, Black Mangrove, Water Locust (*Gleditsia aquatica*), and Sweet Gale (*Myrica gale*)
Aerenchyma (air-filled tissue) in Roots & Stems	Eastern Bur-reed (*Sparganium americanum*), Soft Rush (*Juncus effusus*), Soft-stemmed Bulrush (*Scirpus validus*), Water Shield (*Brasenia schreberi*), Umbrella Sedges (*Cyperus* spp.), other Rushes (*Juncus* spp.), Spike-rushes (*Eleocharis* spp.), Twig-rush (*Cladium mariscoides*), Buckbean (*Menyanthes trifoliata*), Giant Bur-reed (*Sparganium eurycarpum*), and Cattails (*Typha* spp.)
Polymorphic Leaves	Arrowheads (*Sagittaria* spp.) and Water Parsnip (*Sium suave*)
Floating Leaves	Water Shield, Spatterdock Lily (*Nuphar luteum*), and White Water Lily (*Nymphaea odorata*)

Sources: Environmental Laboratory (1987) and Tiner (1988).

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Part IV.

Methods for Identification and Delineation of Wetlands

4.0. Four basic approaches for identifying and delineating wetlands have been developed to cover situations ranging from desk-top or office determinations to highly complex field determinations for regulatory purposes. These methods are the recommended approaches and the reasons for departing from them should be documented. Remember, however, that any method for making a wetland determination must consider the three technical criteria (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology) listed in Part II of this manual. These criteria must be met in order to identify a wetland. In applying all methods, relevant available information on wetlands in the area of concern should be collected and reviewed. Table 2 lists primary data sources.

Selection of a Method

4.1. The wetland delineation methods presented in this manual can be grouped into two general types: (1) offsite procedures and (2) onsite procedures. The offsite procedures are designed for use in the office, while onsite procedures are developed for use in the field. When an onsite inspection is unnecessary or cannot be undertaken for various reasons, available information can be reviewed in the office to make a wetland determination. If available information is insufficient to make a wetland determination or if a precise wetland boundary must be established, an onsite inspection should be conducted. Depending on the field information needed or the complexity of the area, one of three basic onsite methods may be employed: (1) routine, (2) intermediate-level, or (3) comprehensive.

4.2. The routine method is designed for areas equal to or less than five acres in size or larger areas with homogeneous vegetation. For areas greater than five acres in size or other areas of any size that are highly diverse in vegetation, the intermediate-level method or the comprehensive method should be applied, as necessary. The comprehensive method is applied to situations requiring detailed documentation of vegetation, soils, and hydrology. Assessments of significantly disturbed sites will often require intermediate-level or comprehensive determinations as well as some special procedures. In other cases where natural conditions make wetland identification difficult, special procedures for problem area wetland determinations have been developed. These procedures are subroutines of the three onsite determination methods. In making wetland determinations, one should select the appropriate method for each individual unit within the area of concern and not necessarily employ one method for the entire site. Thus, a combination of determination methods may be used for a given site.

4.3. Regardless of the method used, the desired outcome or final product is a wetland/nonwetland determination. Depending on one's expertise, available information, and individual or agency preference, there are two basic approaches to delineating wetland boundaries. The first approach involves characterizing plant communities in the area, identifying hydrophytic plant communities, examining the soils in these areas to confirm the presence of hydric soil, and finally looking for evidence of wetland hydrology. This approach has been widely used by the CE and EPA and to a large extent by the FWS. A second approach involves first delineating the boundary of hydric soils, and then verifying the presence of hydrophytic vegetation and looking for signs of wetland hydrology. This type of approach has been employed by the SCS and to a limited extent by the FWS. Since these approaches yield the same result, this manual incorporates both approaches into most of the methods presented.

Table 2. Primary sources of information that may be helpful in making a wetland determination.

Data Name	Source
Topographic Maps (mostly 1:24,000; 1:63,350 for Alaska)	U.S. Geological Survey (USGS) (Call 1-800-USA-MAPS)
National Wetlands Inventory Maps (mostly 1:24,000; 1:63,350 for Alaska)	U.S. Fish and Wildlife Service (FWS) (Call 1-800-USA-MAPS)
County Soil Survey Reports	U.S.D.A. Soil Conservation Service (SCS) District Offices (Unpublished reports--local district offices)
National Hydric Soils List	SCS National Office
State Hydric Soils List	SCS State Offices
County Hydric Soil Map Unit List	SCS District Offices
National Insurance Agency Flood Maps	Federal Emergency Management Agency
Local Wetland Maps	State and local agencies
Land Use and Land Cover Maps	USGS (1-800-USA-MAPS)
Aerial Photographs	Various sources--USGS, U.S.D.A. Agricultural Stabilization and Conservation Service, other Federal and State agencies, and private sources
Satellite Imagery	EOSAT Corporation, SPOT Corporation, and others
National List of Plant Species That Occur in Wetlands (Stock No. 024-010-00682-0)	Government Printing Office Superintendent of Documents Washington, DC 20402
Regional Lists of Plants that Occur in Wetlands	National Technical Information Service 5285 Port Royal Head Springfield, VA 22161 (703) 487-4650
National Wetland Plant Database	FWS
Stream Gauge Data	CE District Offices and USGS
Soil Drainage Guides	SCS District Offices
Environmental Impact Statements and Assessments	Various Federal and State agencies
Published Reports	Federal and States agencies, universities, and others
Local Expertise	Universities, consultants, and others
Site-specific Plans and Engineering Designs	Private developers

Description of Methods

Offsite Determinations

4.4. When an onsite inspection is not necessary because information on hydrology, hydric soils, and hydrophytic vegetation is known or an inspection is not possible due to time constraints or other reasons, a wetland determination can be made in the office. This approach provides a best approximation of the presence of wetland and its boundaries based on available information. The accuracy of the determination depends on the quality of the information used and on one's ability and experience in an area to interpret these data. Where reliable, site-specific data have been previously collected, the wetland determination should be reasonably accurate. Where these data do not exist, more generalized information may be used to make a preliminary wetland determination. In either case, however, if a more accurate delineation is required, then onsite procedures must be employed.

Offsite Determination Method

4.5. The following steps are recommended for conducting an offsite wetland determination:

Step 1. *Locate the area of interest on a U.S.Geological Survey topographic map and delineate the approximate subject area boundary on the map.* Note whether marsh or swamp symbols or lakes, ponds, rivers, and other waterbodies are present within the area. If they are, then there is a good likelihood that wetland is present. Proceed to Step 2.

Step 2. *Review appropriate National Wetlands Inventory (NWI) maps, State wetland maps, or local wetland maps, where available.* If these maps designate wetlands in the subject area, there is a high probability that wetlands are present unless there is evidence on hand that the wetlands have been effectively drained, filled, excavated, impounded, or otherwise significantly altered since the effective date of the maps. Proceed to Step 3.

Step 3. *Review SCS soil survey maps where available.* In the area of interest, are there any map units listed on the county list of hydric soil map units or are there any soil map units with significant hydric soil inclusions? If *YES*, then assume that at least a portion of the project area may be wetland. If this area is also shown as a wetland on NWI or other wetland maps, then there is a high probability that the area is wetland unless it has been recently altered (check recent aerial photos, Step 4). Areas without hydric soils or hydric soil inclusions should in most cases be eliminated from further review, but aerial photos still should be examined for small wetlands to be more certain. This is especially true if wetlands have been designated on the National Wetlands Inventory or other wetland maps. Proceed to Step 4.

Step 4. *Review recent aerial photos of the project area.* Before reviewing aerial photos, evaluate climatological data to determine whether the photo year had normal or abnormal (high or low) precipitation two to three months, for example, prior to the date of the photo. This will help provide a useful perspective or frame-of-reference for doing photo interpretation. In some cases, aerial photos covering a multi-year period (e.g., 5-7 years) should be reviewed, especially where recent climatic conditions have been abnormal.

During photo interpretation, look for one or more signs of wetlands. For example:

1) hydrophytic vegetation;
2) surface water;
3) saturated soils;
4) flooded or drowned out crops;
5) stressed crops due to wetness;
6) greener crops in dry years;
7) differences in vegetation patterns due to different planting dates.

If signs of wetland are observed, proceed to Step 5 when site-specific data are available; if site-specific data are not available, proceed to Step 6.

(*CAUTION*: Accurate photo interpretation of certain wetland types requires considerable expertise. Evergreen forested wetlands and temporarily flooded wetlands, in general, may present considerable difficulty. If not proficient in wetland photo interpretation, then one can rely more on the findings of other sources, such as NWI maps and soil surveys, or seek help in photo interpretation.)

Step 5. *Review available site-specific information.* In some cases, information on vegetation, soils, and hydrology for the project area has been collected during previous visits to the area by agency personnel, environmental consultants or others.

Moreover, individuals or experts having firsthand knowledge of the project site should be contacted for information whenever possible. Be sure, however, to know the reliability of these sources. After reviewing this information, proceed to Step 6.

Step 6. *Determine whether wetlands exist in the subject area.* Based on a review of existing information, wetlands can be assumed to exist if:

1) Wetlands are shown on NWI or other wetland maps, and hydric soil or a soil with hydric soil inclusions is shown on the soil survey; or

2) Hydric soil or soil with hydric soil inclusions is shown on the soil survey, and

A) site-specific information confirms hydrophytic vegetation, hydric soils, and/or wetland hydrology, or

B) signs of wetland are detected by reviewing aerial photos; or

3) Any combination of the above or parts thereof (e.g., vegetated wetland on NWI maps and signs of wetland on aerial photos).

If after examining the available reference material one is still unsure whether wetland occurs in the area, then a field inspection should be conducted, whenever possible. Alternatively, more detailed information on the site characteristics may be sought from the project sponsor, if applicable, to help make the determination.

4.6. Offsite procedures are dependent on the availability of information for making a wetland determination, the quality of this information, and one's ability and experience to interpret these data. In most cases, therefore, the offsite procedure yields a preliminary determination. For more accurate results, one must conduct an onsite inspection.

Onsite Determinations

4.7. When an onsite inspection is necessary, be sure to review pertinent background information (e.g., NWI maps, soil surveys, and site plans) before going to the subject site. This information will be helpful in determining what type of field method should be employed. Also, read the sections of this manual that discuss disturbed and problem area wetlands before conducting field work (see p. 50-59). Recommended equipment and materials for conducting onsite determinations are listed in Table 3.

Figures 1, 2, and 3 show the conceptual approaches for making onsite wetland determinations. These figures are *NOT* decision matrices for making wetland determinations.

Table 3. Recommended equipment and materials for onsite determinations.

Equipment	**Materials**
Soil auger, probe, or spade	Data sheets and clipboard
Sighting compass	Field notebook
Pen or pencil	Base (topographic) map
Penknife	Aerial photograph
Hand lens	National Wetlands Inventory map
Vegetation sampling frame*	Soil survey or other soil map
Camera/Film	Appropriate Federal interagency wetland plants list
Binoculars	County hydric soil map unit list
Tape measure	Munsell scoil color book
Prism or angle gauge	Plant identification field guides/manuals
Diameter tape*	*National List of Scientific Plant Names*
Vasculum (for plant collection)	Flagging tape/wire flags/wooden stakes
Calculator*	Plastic bags (for collecting plants and soil samples as needed)
Dissecting kit	

* Needed for comprehensive determination

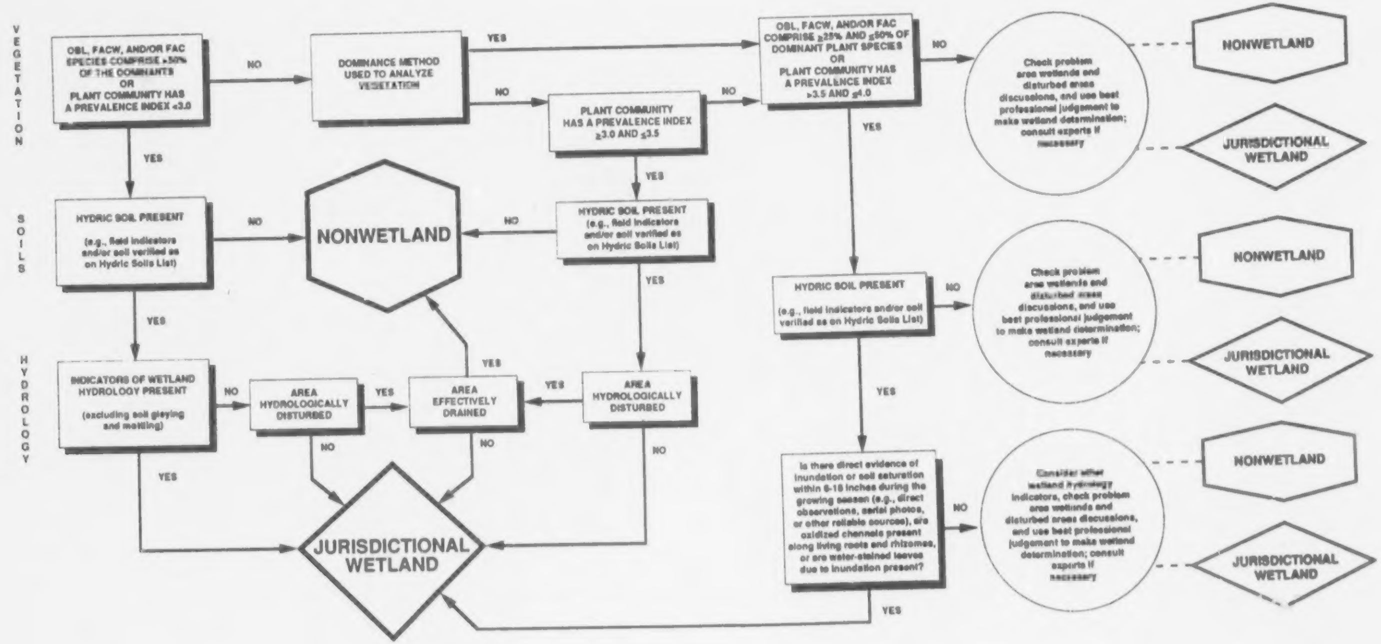
VEGETATION
SOILS
HYDROLOGY
OBL, FACW, AND/OR FAC SPECIES COMPRISE >50% OF THE DOMINANTS OR PLANT COMMUNITY HAS A PREVALENCE INDEX <3.0
NO
YES
DOMINANCE METHOD USED TO ANALYZE VEGETATION
YES
NO
PLANT COMMUNITY HAS A PREVALENCE INDEX ≥3.0 AND ≤3.5
NO
OBL, FACW, AND/OR FAC COMPRISE ≥25% AND ≤50% OF DOMINANT PLANT SPECIES OR PLANT COMMUNITY HAS A PREVALENCE INDEX >3.5 AND ≤4.0
NO
YES
Check problem area wetlands and disturbed areas discussions, and use best professional judgement to make wetland determination; consult experts if necessary
NONWETLAND
JURISDICTIONAL WETLAND
HYDRIC SOIL PRESENT (e.g., field indicators and/or soil verified as on Hydric Soils List)
NO
NONWETLAND
NO
YES
HYDRIC SOIL PRESENT (e.g., field indicators and/or soil verified as on Hydric Soils List)
YES
HYDRIC SOIL PRESENT (e.g., field indicators and/or soil verified as on Hydric Soils List)
NO
Check problem area wetlands and disturbed areas discussions, and use best professional judgement to make wetland determination; consult experts if necessary
NONWETLAND
JURISDICTIONAL WETLAND
YES
INDICATORS OF WETLAND HYDROLOGY PRESENT (excluding soil gleying and mottling)
NO
AREA HYDROLOGICALLY DISTURBED
YES
AREA EFFECTIVELY DRAINED
YES
YES
AREA HYDROLOGICALLY DISTURBED
YES
NO
NO
NO
NO
JURISDICTIONAL WETLAND
Is there direct evidence of inundation or soil saturation within 6-18 inches during the growing season (e.g., direct observations, aerial photos, or other reliable sources), are oxidized channels present along living roots and rhizomes, or are water-stained leaves due to inundation present?
NO
YES
Consider other wetland hydrology indicators, check problem area wetlands and disturbed areas discussions, and use best professional judgement to make wetland determination; consult experts if necessary
NONWETLAND
JURISDICTIONAL WETLAND

Figure 1. Composite of Conceptual Approaches for Making an Onsite Jurisdictional Wetland Determination. (*CAUTION*: This is NOT a Decision Matrix for Making a Wetland Determination.)

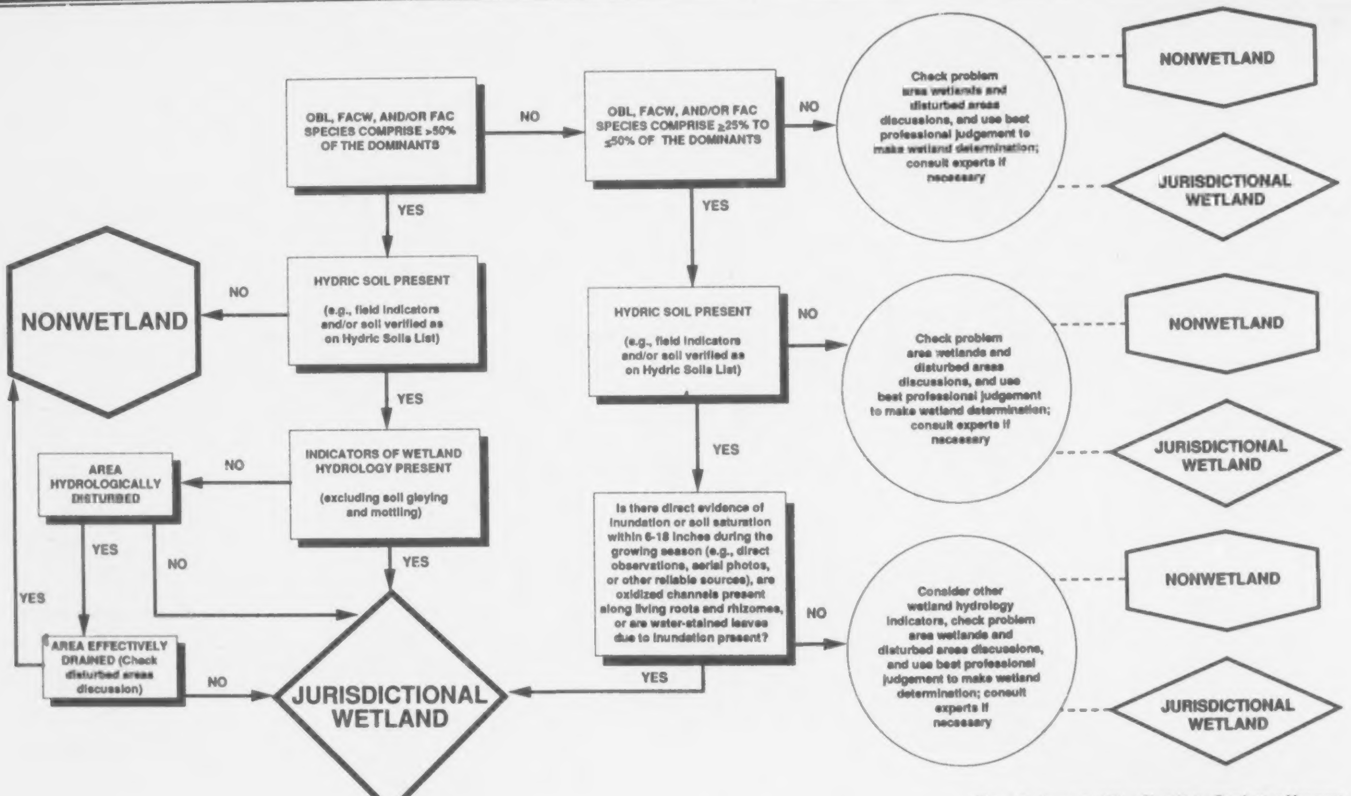
OBL, FACW, AND/OR FAC SPECIES COMPRISE >50% OF THE DOMINANTS
NO
OBL, FACW, AND/OR FAC SPECIES COMPRISE ≥25% TO ≤50% OF THE DOMINANTS
NO
Check problem area wetlands and disturbed areas discussions, and use best professional judgement to make wetland determination; consult experts if necessary
NONWETLAND
JURISDICTIONAL WETLAND
YES
YES
NONWETLAND
NO
HYDRIC SOIL PRESENT (e.g., field indicators and/or soil verified as on Hydric Soils List)
HYDRIC SOIL PRESENT (e.g., field indicators and/or soil verified as on Hydric Soils List)
NO
Check problem area wetlands and disturbed areas discussions, and use best professional judgement to make wetland determination; consult experts if necessary
NONWETLAND
JURISDICTIONAL WETLAND
YES
YES
AREA HYDROLOGICALLY DISTURBED
NO
INDICATORS OF WETLAND HYDROLOGY PRESENT (excluding soil gleying and mottling)
Is there direct evidence of inundation or soil saturation within 6-18 inches during the growing season (e.g., direct observations, aerial photos, or other reliable sources), are oxidized channels present along living roots and rhizomes, or are water-stained leaves due to inundation present?
YES
NO
YES
YES
NO
Consider other wetland hydrology indicators, check problem area wetlands and disturbed areas discussions, and use best professional judgement to make wetland determination; consult experts if necessary
NONWETLAND
JURISDICTIONAL WETLAND
AREA EFFECTIVELY DRAINED (Check disturbed areas discussion)
NO
JURISDICTIONAL WETLAND
YES

Figure 2. Conceptual Flow Chart Using Dominance Measures to Analyze Vegetation in Making an Onsite Jurisdictional Wetland Determination. (*CAUTION*: This is NOT a Decision Matrix for Using This Approach.)

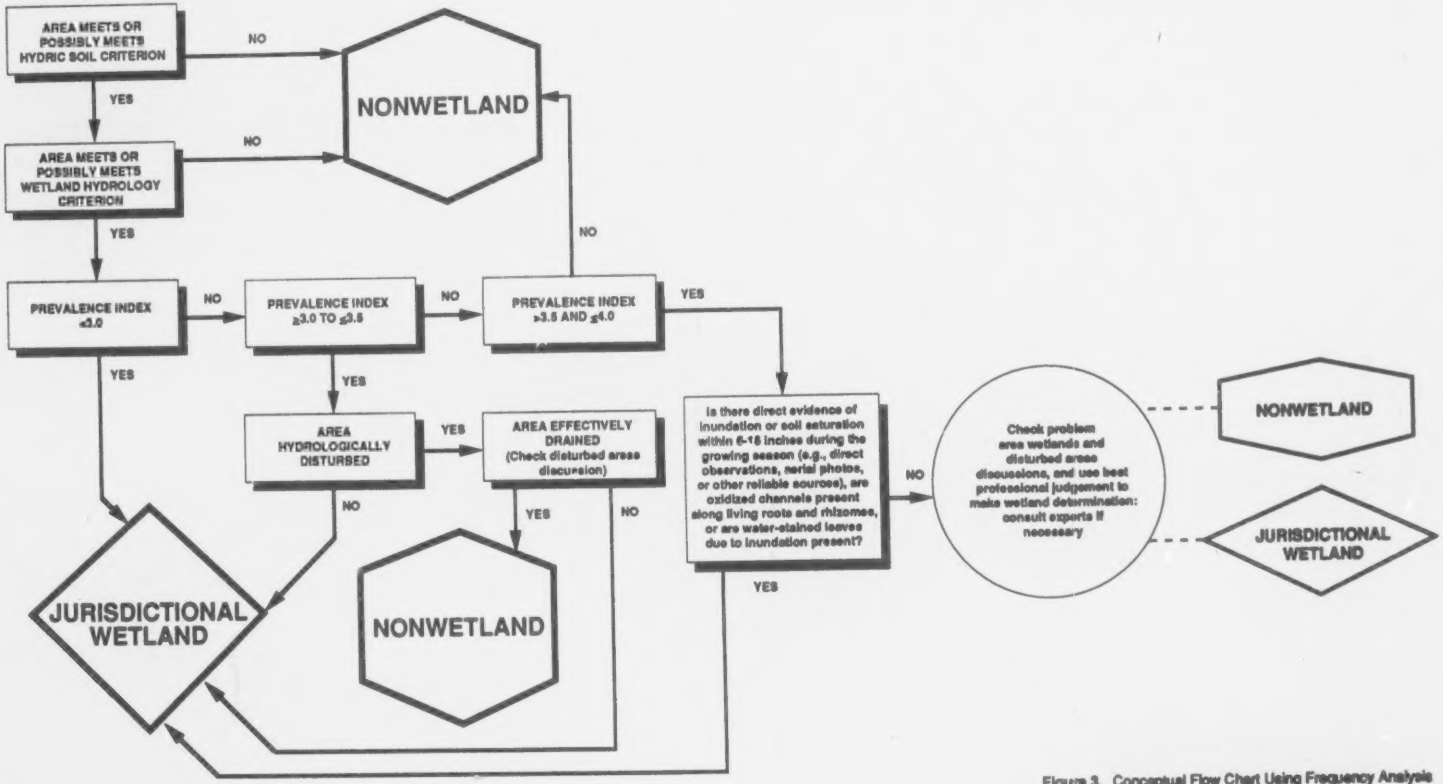
AREA MEETS OR POSSIBLY MEETS HYDRIC SOIL CRITERION
NO
YES
NONWETLAND
AREA MEETS OR POSSIBLY MEETS WETLAND HYDROLOGY CRITERION
NO
YES
PREVALENCE INDEX <3.0
NO
PREVALENCE INDEX ≥3.0 TO ≤3.5
NO
PREVALENCE INDEX >3.5 AND ≤4.0
NO
YES
YES
YES
AREA HYDROLOGICALLY DISTURBED
YES
AREA EFFECTIVELY DRAINED (Check disturbed areas discussion)
NO
YES
NO
NONWETLAND
JURISDICTIONAL WETLAND
Is there direct evidence of inundation or soil saturation within 6-18 inches during the growing season (e.g., direct observations, aerial photos, or other reliable sources), are oxidized channels present along living roots and rhizomes, or are water-stained leaves due to inundation present?
NO
YES
Check problem area wetlands and disturbed areas discussions, and use best professional judgement to make wetland determination: consult experts if necessary
NONWETLAND
JURISDICTIONAL WETLAND

Figure 3. Conceptual Flow Chart Using Frequency Analysis (Point Intercept Sampling Procedures) of Vegetation in Making an Onsite Jurisdictional Determination. (*CAUTION*: This is NOT a Decision Matrix for Making a Wetland Determination.)

4.8. For every upcoming field inspection, the following pre-inspection steps should be undertaken:

Step 1. *Locate the project area on a map (e.g., U.S. Geological Survey topographic map or SCS soil survey map) or on an aerial photograph and determine the limits of the area of concern.* Proceed to Step 2.

Step 2. *Estimate the size of the subject area.* Proceed to Step 3.

Step 3. *Review existing background information and determine, to the extent possible, the site's geomorphological setting (e.g., floodplain, isolated depression, or ridge and swale complex), its habitat or vegetative complexity (i.e., the range of habitat or vegetation types), and its soils.* (*Note*: Depending on available information, it may not be possible to determine the habitat complexity without going on the site; if necessary, do a field reconnaissance.) Proceed to Step 4.

Step 4. *Determine whether a disturbed condition exists.* Examine available information and determine whether there is evidence of sufficient natural or human-induced alteration to significantly modify all or a portion of the area's vegetation, soils, and/or hydrology. If such disturbance is noted, identify the limits of affected areas for they should be evaluated separately for wetland determination purposes (usually after evaluating undisturbed areas). The presence of disturbed areas within the subject area should be considered when selecting an onsite determination method. (*Note*: It may be possible that at any time during this determination, one or more of the three characteristics may be found to be significantly altered. If this happens, follow the disturbed area wetland determination procedures, as necessary, noted on p. 50.) Proceed to Step 5.

Step 5. *Determine the field determination method to be used.* Considering the size and complexity of the area, determine whether a routine, intermediate-level, or comprehensive field determination method should be used. When the area is equal to or less than five acres in size or is larger and appears to be relatively homogeneous with respect to vegetation, soils, and/or hydrology, use the routine method (see below). When the area is greater than five acres in size, or is smaller but appears to be highly diverse with respect to vegetation, use the intermediate-level method (p. 35). When detailed quantification of plant communities and more extensive documentation of other factors (soils and hydrology) are required, use the comprehensive method regardless of the wetland's size (p. 39.) Significantly disturbed sites (e.g., sites that have been filled, hydrologically modified, cleared of vegetation, or had their soils altered) will generally require intermediate-level or comprehensive methods. In these disturbed areas, it usually will be necessary to follow a set of subroutines to determine whether the altered characteristic met the applicable criterion prior to its modification; in the case of altered wetland hydrology, it may be necessary to determine whether the area is effectively drained. Because a large area may include a diversity of smaller areas ranging from simple wetlands to vegetatively complex areas, one may use a combination of the onsite determination methods, as appropriate.

Routine Onsite Determination Method

4.9. For most cases, wetland determinations can be made in the field without rigorous sampling of vegetation and soils. Two approaches for routine determinations are presented: (1) hydric soil assessment procedure, and (2) plant community assessment procedure. In the former approach, areas that meet or may meet the hydric soil criterion are first delineated and then dominant vegetation is visually estimated to determine if hydrophytic vegetation is obvious. If so, the area is designated as wetland. If not, then the site must undergo a more rigorous evaluation following one of the other onsite determination methods presented in the manual. The second routine approach requires initial identification of representative plant community types in the subject area and then characterization of vegetation, soils, and hydrology for each type. After identifying wetland and nonwetland communities, the wetland boundary is delineated. All pertinent observations on the three mandatory wetland criteria should be recorded on an appropriate data sheet.

4.10. Hydric Soil Assessment Procedure

Step 1. *Identify the approximate limits of areas that may meet the hydric soil criterion within the area of concern and sketch limits on an aerial photograph.* To help identify these limits use sources of information such as Agricultural Stabilization and Conservation slides, soil surveys, NWI maps, and other maps and photographs. (*Note*: This step is more convenient to perform offsite, but may be done onsite.) Proceed to Step 2.

Step 2. *Scan the areas that may meet the hydric soil criterion and determine if disturbed conditions exist.* Are any significantly disturbed areas present? If *YES*, identify their limits for they should be evaluated separately for wetland determination purposes (usually after evaluating undisturbed areas). Refer to the section on disturbed areas (p. 50), if necessary, to evaluate the altered characteristic(s) (vegetation, soils, or hydrology); then return to this method and continue evaluating characteristics not altered. (*Note*: Prior experience with disturbed sites may allow one to easily evaluate an altered characteristic, such as when vegetation is not present in a farmed wetland due to cultivation.) Keep in mind that if at any time during this determination, one or more of these three characteristics are found to have been significantly altered, the disturbed area determination procedures should be followed. If the area is not significantly disturbed, proceed to Step 3.

Step 3. *Scan the areas that may meet the hydric soil criterion and determine if obvious signs of wetland hydrology are present.* The wetland hydrology criterion is met for any area or portion thereof where it is obvious or known that the area is frequently inundated or saturated to the surface during the growing season. If the above condition exists, the hydric soil criterion is met for the subject area and the area is considered wetland. If necessary, confirm the presence of hydric soil by examining the soil for appropriate field indicators. (*Note*: Hydrophytic vegetation is assumed to be present under these conditions, i.e., undrained hydric soil, so vegetation does not need to be examined. Moreover, hydrophytic vegetation should be obvious in these situations.) Areas lacking obvious indicators of wetland hydrology must be further examined, so proceed to Step 4.

Step 4. *Refine the boundary of areas that meet the hydric soil criterion.* Verify the presence of hydric soil within the appropriate map units by digging a number of holes at least 18 inches deep along the boundary (interface) between hydric soil units and nonhydric soil units. Compare soil samples with descriptions in the soil survey report to see if they are properly mapped and look for hydric soil characteristics or indicators. In this way, the boundary of areas meeting the hydric soil criterion is further refined by field observations. In map units where only part of the unit is hydric (e.g., complexes, associations, and inclusions), locate hydric soil areas on the ground by considering landscape position and evaluating soil characteristics for hydric soil properties (indicators). (*Note*: Some hydric soils, especially organic soils, have not been given a series name and are referred to by common names, such as peat, muck, swamp, marsh, wet alluvial land, tidal marsh, sulfaquents, and sulfihemists. These areas are also considered hydric soil map units. Certain hydric soils are mapped with nonhydric soils as an association or complex, while other hydric soils occur as inclusions in nonhydric map units. Only the hydric soil portion of these map units should be evaluated for hydrophytic vegetation in Step 7.) If the area meets the hydric soil criterion, proceed to Step 5. (*Note*: These areas are also considered to have met the wetland hydrology criterion.)

Step 5. *Determine whether normal environmental conditions are present.* Determine whether normal environmental conditions are present by considering the following:

1) Is the area presently lacking hydrophytic vegetation or hydrologic indicators due to annual, seasonal or longterm fluctuations in precipitation, surface water, or ground-water levels?

2) Are hydrophytic vegetation indicators lacking due to seasonal fluctuation in temperature (e.g., seasonality of plant growth)?

If the answer to either of these questions is *YES* or uncertain, proceed to the section on problem area wetland determinations (p. 55). If the answer to both questions is *NO*, normal conditions are assumed to be present, so proceed to Step 6.

Step 6. *Select representative observation area(s).* Identify one or more observation areas that represent the area(s) meeting the hydric soil criterion. A representative observation area is one in which the apparent characteristics (determined visually) best represent characteristics of the entire community. Mark the approximate location of the observation area(s) on the aerial photo. Proceed to Step 7.

Step 7. *Characterize the plant community within the area(s) meeting the hydric soil criterion.* Visually estimate the percent areal cover of dominant species for the entire plant community. (*Note*: Dominant species are the most abundant species in each stratum, see p. 9.) If dominant species are not obvious, use one of the other onsite methods. Proceed to Step 8 or to another method, as appropriate.

Step 8. *Record the indicator status of dominant species within each area meeting the hydric soil criterion.* Indicator status is obtained from the interagency Federal list of plants occurring in wetlands for the appropriate geographic region. Record information on an appropriate data form. Proceed to Step 9.

Step 9. *Determine whether wetland is present or additional analysis is required.* If the estimated percent areal cover of OBL and FACW species exceeds that of FACU and UPL species, the area is considered wetland and the wetland-nonwetland boundary is the line delineated in Step 3. If not, then the point intercept or other sampling procedures should be performed to do a more rigorous analysis of site characteristics.

4.11. Plant Community Assessment Procedure

Step 1. *Scan the entire project area, if possible, or walk, if necessary, and identify plant community types present.* In identifying communities, pay particular attention to changes in elevation throughout the site. (*CAUTION*: In highly variable sites, such as ridge and swale complexes, be sure to stratify properly.) If possible, sketch the approximate location of each plant community on a base map, an aerial photograph of the project area, or a county soil survey map and label each community with an appropriate name. (*Note*: For large homogeneous wetlands, especially marshes dominated by herbaceous plants and shrub bogs dominated by low-growing shrubs, it is usually not necessary to walk the entire project area. In these cases, one can often see for long distances and many have organic mucky soils that can be extremely difficult to walk on. Forested areas, however, will usually require a walk through the entire project area.)

In examining the project area, are any significantly disturbed areas observed? If *YES*, identify their limits for they should be evaluated separately for wetland determination purpose (usually after evaluating undisturbed areas). Refer to the section on disturbed areas (p. 50) to evaluate the altered characteristic(s) (i.e., vegetation, soils, or hydrology); then return to this method to continue evaluating characteristics not altered. Keep in mind that if at any time during this determination one or more of these three characteristics are found to have been significantly altered, the disturbed area procedures should be followed. If the area is not significantly disturbed, proceed to Step 2.

Step 2. *Determine whether normal environmental conditions are present.* Determine whether normal environmental conditions are present for each plant community by considering the following:

1) Is the area presently lacking hydrophytic vegetation or hydrologic indicators due to annual, seasonal or long-term fluctuations in precipitation, surface water, or ground-water levels?

2) Are hydrophytic vegetation indicators lacking due to seasonal fluctuations in temperature (e.g., seasonality of plant growth)?

If the answer to either of these questions is *YES* or uncertain, proceed to the section on problem area wetland determinations (p. 55). If the answer to both questions is *NO*, normal conditions are assumed to be present, so proceed to Step 3.

Step 3. *Select representative observation area(s).* Select one or more representative observation areas within each community type. A representative observation area is one in which the apparent characteristics (determined visually) best represent characteristics of the entire community. Mark the approximate location of the observation areas on the base map or photo. Proceed to Step 4.

Step 4. *Characterize each plant community in the project area.* Within each plant community identified in Step 1, visually estimate the dominant plant species for each vegetative stratum in the representative observation areas and record them on an appropriate data form. Vegetative strata may include tree, sapling, shrub, herb, woody vine, and bryophyte strata (see glossary for definitions). A separate form must be completed for each plant community identified for wetland determination purposes. (*Note*: Dominant species are those species in each stratum that, when ranked in decreasing order of abundance and cumulatively totaled, immediately exceed 50 percent of the total dominance measure for that stratum, plus any additional plant species comprising 20 percent or more of the total dominance measure for the stratum.) After identifying dominants within each vegetative stratum, proceed to Step 5.

Step 5. *Record the indicator status of dominant species in all strata*. Indicator status is obtained from the interagency Federal list of plants occurring in wetlands for the appropriate geographic region. Record indicator status for all dominant plant species on a data form. Proceed to Step 6.

Step 6. *Determine whether the hydrophytic vegetation criterion is met*. When more than 50 percent of the dominant species in each community type have an indicator status of OBL, FACW, and/or FAC, the vegetation is hydrophytic. Complete the vegetation section of the data form. Portions of the project area failing this test are usually not wetlands, although under certain circumstances they may have hydrophytic vegetation (follow the problem area wetland determination procedures on p. 55). If hydrophytic vegetation is present, proceed to Step 7.

Step 7. *Determine whether soils must be characterized*. Examine vegetative data collected for each plant community (in Steps 5 and 6) and identify any plant community where: (1) all dominant species have an indicator status of OBL, or (2) all dominant species have an indicator status of OBL and FACW and the wetland boundary is abrupt. For these communities, hydric soils are assumed to be present and do not need to be examined; proceed to Step 9. Plant communities lacking the above characteristics must have soils examined; proceed to Step 8.

Step 8. *Determine whether the hydric soil criterion is met*. Locate the observation area on a county soil survey map, if possible, and determine the soil map unit delineation for the area. Using a soil auger, probe, or spade, make a hole at least 18 inches deep at the representative location in each plant community type. Examine soil characteristics and compare if possible to soil descriptions in the county soil survey report. If soil colors match those described for hydric soil, then record data and proceed to Step 9. If not, then check for hydric soil indicators below the A-horizon (surface layer) and within 18 inches for organic soils and for mineral soils with low permeability rates (<6.0 inches/hour), within 12 inches for coarse-textured (sandy) mineral soils with high permeability rates (≥6.0 inches/hour), and within 6 inches for somewhat poorly drained soils. (*Note*: If the A-horizon extends below the designated depth, look immediately below the A-horizon for signs of hydric soil.) Are hydric soil indicators present (see pp. 13-15)? If so, list indicators present on an appropriate data form and proceed to Step 9. If soil has been plowed or otherwise altered, which may have eliminated these indicators, proceed to the section on disturbed areas (p. 50). If field indicators are not present, but available information verifies that the hydric soil criterion is met, then the soil is hydric. Complete the soils section on the appropriate data sheet. (*CAUTION*: Become familiar with problematic hydric soils that do not possess good hydric field indicators, such as red parent material soils, some sandy soils, and some floodplain soils, so that these hydric soils are not misidentified as nonhydric soils; see the problem area wetlands discussion on p. 55.)

Step 9. *Determine whether the wetland hydrology criterion is met*. Examine the area of each plant community type for indicators of wetland hydrology (see pp. 17-19). The wetland hydrology criterion is met when:

1) one or more field indicators are present; or

2) available hydrologic records provide sufficient evidence; or

3) the plant community is dominated by OBL, FACW and/or FAC species or has a prevalence index of less than 3.0, and the area has not been hydrologically disturbed.

If the area is hydrologically disturbed, proceed to the section on disturbed areas (p. 50). Record observations and other evidence on the appropriate data form. Proceed to Step 10.

Step 10. *Make the wetland determination*. Examine data forms for each plant community identified in the project area. Each community meeting the hydrophytic vegetation, hydric soil, and wetland hydrology criteria is considered wetland. If all communities meet these three criteria, then the entire project area is a wetland. If only a portion of the project area is wetland, then the wetland-nonwetland boundary must be established. Proceed to Step 11.

Step 11. *Determine the wetland-nonwetland boundary*. Where a base map or annotated photo was prepared, mark each plant community type on the map or photo with a "W" if wetland or an "N" if nonwetland. Combine all "W" types into a single mapping unit, if possible, and all "N" types into another mapping unit. On the map or photo, the wetland boundary will be represented by the interface of these mapping units. If flagging the boundary on the ground, the boundary is established by determining the location where hydrophytic vegetation and hydric soils give way to nonhydrophytic vegetation and nonhydric soils. This will often require sampling a few more holes to better define the limits of the hydric soils and thereby establish the limits of hydrophytic vegetation.

Intermediate-level Onsite Determination Method

4.12. On occasion, a more rigorous sampling method is required than the routine method to determine whether hydrophytic vegetation is present at a given site, especially where the boundary between wetland and nonwetland is gradual or indistinct. This circumstance requires more intensive sampling of vegetation and soils than presented in the routine determination method. This method also may be used for areas greater than five acres in size or other areas that are highly diverse in vegetation.

4.13. The intermediate-level onsite determination method has been developed to provide for more intensive vegetation sampling than the routine method. Two optional approaches are presented: (1) quadrat transect sampling procedure, and (2) vegetation unit sampling procedure. The former procedure involves establishing transects within the project area and sampling plant communities along the transect within sample quadrats, with soils and hydrology also assessed as needed in each sample plot. In contrast, the vegetation unit sampling procedure offers a different approach for analyzing the vegetation. First, vegetation units are designated in the project area and then a meander survey is conducted in each unit where visual estimates of percent areal coverage by plant species are made. Soil and hydrology observations also are made as necessary. Boundaries between wetland and nonwetland are established by examining the transitional gradient between them.

4.14. The following steps should be completed:

Step 1. *Locate the limits of the project area in the field and conduct a general reconnaissance of the area*. Previously the project boundary should have been determined on aerial photos or maps. Now appropriate ground reference points need to be located to insure that sampling will be conducted in the proper area. In examining the project area, were any significantly disturbed areas observed? If YES, identify their limits for they should be evaluated separately for wetland determination purposes (usually after evaluating undisturbed areas). Refer to the section on disturbed areas (p. 50) to evaluate the altered characteristic(s) (i.e., vegetation, soils, or hydrology); then return to this method to continue evaluating the characteristics not altered. Keep in mind that if at any time during this determination, one or more of these three characteristics is found to have been significantly altered, the disturbed areas procedures should be followed. If the area is not significantly disturbed, proceed with Step 2.

Step 2. *Decide how to analyze plant communities within the project area: (1) by selecting representative plant communities (vegetation units), or (2) by sampling along a transect*. Discrete vegetation units may be identified on aerial photographs, topographic and other maps, and/or by field inspection. These units will be evaluated for hydrophytic vegetation and also for hydric soils and wetland hydrology, as necessary. *If the vegetation unit approach is selected, proceed to Step 3*. An alternative approach is to establish transects for identifying plant communities, sampling vegetation and evaluating other criteria, as appropriate. *If the transect approach is chosen, proceed to Step 4*.

Step 3. *Identifying vegetation units for sampling*. Vegetation units are identified by examining aerial photographs, topographic maps, NWI maps, or other materials or, by direct field inspection. All of the different vegetation units present in the project area should be identified. The subject area should be traversed and different vegetation units specifically located prior to conducting the sampling.

Field inspection may refine previously identified vegetation units, as appropriate. It may be advisable to divide large vegetation units into subunits for independent analysis. (*CAUTION*: In highly variable terrain, such as ridge and swale complexes, be sure to stratify properly.) Decide which plant community to sample first and proceed to Step 7.

Step 4. *Establish a baseline for locating sampling transects.* Select as a baseline one project boundary or a conspicuous feature, such as road, in the project area. The baseline should be more or less parallel to the major watercourse through the area, if present, or perpendicular to the hydrologic gradient (see Figure 4). Determine the approximate baseline length. Proceed to Step 5.

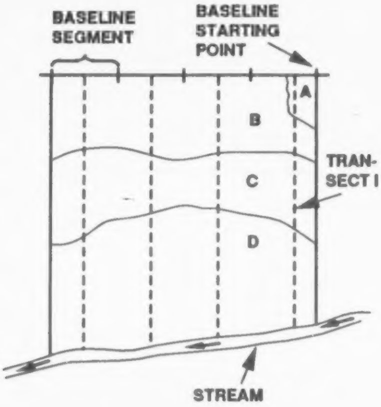

Figure 4. General orientation of baseline and transects (dashed lines) in a hypothetical project area. The letters "A", "B", "C" and "D" represent different plant communities. All transects start at the midpoint of a baseline segment except the first, which was repositioned to include community type A.

Step 5. *Determine the required number and position of transects.* Use the following to determine the required number and position of transects (specific site conditions may necessitate changes in intervals):

Baseline length	Number of Transects
Less than one mile	3
One mile to two miles	3-5
Two miles to four miles	5-8
Four miles or longer	8 or more*

*Transect intervals should not exceed 0.5 mile.

Divide the baseline length by the number of required transects to establish baseline segments for sampling. Establish one transect in each resulting baseline segment (see Figure 4). Use the midpoint of each baseline segment as a transect starting point. For example, if the baseline is 1,200 feet in length, three transects would be established: one at 200 feet, one at 600 feet, and one at 1,000 feet from the baseline starting point. *Make sure that all plant community types are included within the transects; this may necessitate relocation of one or more transect lines or establishing more transects.* Each transect should extend perpendicular to the baseline (see Figure 4). Once positions of transect lines are established, go to the beginning of the first transect and proceed to Step 6.

Step 6. *Locate sample plots along the transect.* Along each transect, sample plots are established within each plant community encountered to assess vegetation, soils, and hydrology. When identifying these sample plots, two approaches may be followed: (1) walk the entire length of the transect, taking note of the number, type, and location of plant communities present (flag the location, if necessary), and on the way back to the baseline, identify plots and perform sampling, or (2) identify plant communities as the transect is walked and sample the plot at that time ("sample as you go"). The sample plot should be located so it is representative of the plant community type. When the plant community type is large and covers a significant distance along the transect, select an area that is no closer than 300 feet to a perceptible change in plant community type; mark the center of this area on the base map or photo and flag the location in the field, if necessary. (*CAUTION*: In highly variable terrain, such as ridge and swale complexes, be sure to stratify properly to ensure best results.) At each plant community, proceed to Step 7.

Step 7. *Determine whether normal environmental conditions are present.* Determine whether normal environmental conditions are present by considering the following:

1) Is the area presently lacking hydrophytic vegetation or hydrologic indicators due to annual, seasonal, or long-term fluctuations in precipitation, surface water, or ground-water levels?

2) Are hydrophytic vegetation indicators lacking due to seasonal fluctuations in temperature (e.g., seasonality of plant growth)?

If the answer to either of these questions is *YES* or uncertain, proceed to the section on problem area wetland determinations (p. 55), then return to this method and continue the wetland determination. If the answer to both questions is *NO*, normal conditions are assumed to be present, so proceed to Step 8.

Step 8. *Characterize the vegetation of the vegetation unit or the plant community along the transect.*

If analyzing vegetation units, meander through the unit making visual estimates of the percent area covered for each species in the herb, shrub, sapling, woody vine, and tree strata; alternatively, for the tree stratum determine basal area using the Bitterlich method (Dilworth and Bell 1978; Avery and Burkhart 1983). Then:

1) Within each stratum determine and record the cover class of each species and its corresponding midpoint. The cover classes (and midpoints) are: T = <1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

2) Rank the species within each stratum according to their midpoints. (*Note*: If two or more species have the same midpoints and the same or essentially the same recorded percent areal cover, rank them equal; use absolute areal cover values as a tie-breaker only if they are obviously different.)

3) Sum the midpoint values of all species within each stratum.

4) Multiply the total midpoint values for each stratum by 50 percent. (*Note*: This number represents the dominance threshold number and is used to determine dominant species.)

5) Compile the cumulative total of the ranked species in each stratum until 50 percent of the sum of the midpoints (i.e., the dominance threshold number), for the herb, woody vine, shrub, sapling, and tree strata (or alternatively basal area for trees) is immediately exceeded. All species contributing areal cover or basal area to the 50 percent threshold are considered dominants, plus any additional species representing 20 percent or more of the total cover class midpoint values for each stratum or the basal area for tree stratum. (*Note*: If the threshold is reached by two or more equally ranked species, consider them all dominants, along with any higher ranked species. If all species are equally ranked, consider them all dominants.)

6) Record all dominant species on an appropriate data sheet and list indicator status of each. Proceed to Step 9.

If using the transect approach, sample vegetation in each stratum (e.g., tree, shrub, herb, etc.) occurring in the sample plots using the following quadrat sizes: (1) a 5-foot radius for bryophytes and herbs, and (2) a 30-foot radius for trees, saplings, shrubs, and woody vines. Plot size and shape may be changed as necessary to meet site conditions. Determine dominant species for each stratum by estimating one or more of the following as appropriate: (1) relative basal area (trees); (2) areal cover (trees, saplings, shrubs, herbs, woody vines, and bryophytes); or (3) stem density (shrubs, saplings, herbs, and woody vines). (*Note*: Dominant species within each stratum are the most abundant plant species that when ranked in descending order of abundance and cumulatively totaled immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species comprising 20 percent or more of the total dominance measure.) Record all dominant species on an appropriate data sheet and list the indicator status of each. Proceed to Step 9.

Step 9. *Determine whether the hydrophytic vegetation criterion is met.* When more than 50 percent of the dominant species in the vegetation unit or sample plot have an indicator status of OBL, FACW, and/or FAC, hydrophytic vegetation is present. If the vegetation fails to be dominated by these types of species, the unit or plot is usually not wetland. However, this vegetation unit or plot may constitute hydrophytic vegetation under certain circumstances (refer to the disturbed areas or problem area wetland determination sections on pp. 50-59). If hydrophytic vegetation is present, proceed to Step 10 after completing the vegetation section of the data sheet.

Step 10. *Determine whether soils must be characterized.* Examine vegetative data collected for the vegetation unit or plot (in Steps 8 and 9) and identify any units or plots where: (1) all dominant species have an indicator status of OBL, or (2) all dominant species have an indicator status of OBL and FACW, and the wetland boundary is abrupt. For these units or plots, hydric soils are assumed to be present and do not need to be examined; proceed to Step 12. Vegetation units or plots lacking the above characteristics must have soils examined; proceed to Step 11.

Step 11. *Determine whether the hydric soil criterion is met.* Locate the sample plot or vegetation unit on a county soil survey map if possible, and determine the soil map unit delineation for the area. Using a soil auger, probe, or spade, make a hole at least 18 inches deep in the area. (*Note*: In applying the vegetation unit approach, one or more soil samples should be taken.) Examine soil characteristics in the sample plot or vegetative unit and if possible compare them to soil descriptions in the county soil survey report. If soil colors match those described for hydric soil in the report, then record data and proceed to Step 12. If not, then check for hydric soil indicators below the A-horizon (surface layer) and within 18 inches for organic soils and poorly and very poorly drained mineral soils with low permeability rates (<6.0 inches/hour), within 12 inches for poorly and very poorly drained, coarse-textured (sandy) mineral soils with high permeability rates (≥6.0 inches/hour), and within 6 inches for somewhat poorly drained soils. (*Note*: If the A-horizon extends below the designated depth, look immediately below the A-horizon for signs of hydric soil.) Are hydric soil indicators present (see pp. 13-15)? If so, list indicators present on data form and proceed to Step 12. If soil has been plowed or otherwise altered which may have eliminated these indicators, proceed to the section on disturbed areas (p. 50), then return to this method to continue the wetland determination. If field indicators are not present, but available information verifies that the hydric soil criterion is met, then the soil is hydric. Complete the soils section on an appropriate data sheet. Proceed to Step 12. (*CAUTION*: Become familiar with problematic hydric soils that do not possess good hydric field indicators, such as red parent material soils, some sandy soils, and some floodplain soils, so that these hydric soils are not misidentified as nonhydric soils; see the section on problem area wetlands, p.55.)

Step 12. *Determine whether the wetland hydrology criterion is met.* Examine the sample plot or vegetation unit for indicators of wetland hydrology (see pp. 17-19) and review available recorded hydrologic information. The wetland hydrology criteria is met when:

1) one or more field indicators are materially present; or

2) available hydrologic records provide necessary evidence; or

3) the plant community is dominated by OBL, FACW, and/or FAC species, *and* the area's hydrology is not significantly disturbed.

If the area's hydrology is significantly disturbed, proceed to the section on disturbed areas (p. 50). Record observations and other evidence on an appropriate data form. Proceed to Step 13.

Step 13. *Make the wetland determination for the plant community or vegetation unit.* Examine the data forms for the plant community (sample plot) or vegetation unit. When the community or unit meets the hydrophytic vegetation, hydric soil, and wetland hydrology criteria, the area is considered wetland. Complete the summary data sheet; proceed to Step 14 when continuing to sample the transect or other vegetation units, or to Step 15 when determining a boundary between wetland and nonwetland plant communities or units. (*Note*: Before going on, double check all data sheets to ensure that the forms are completed properly.)

Step 14. *Sample other plant communities along the transect or other vegetation units.* Repeat Steps 6 through 13 for all remaining plant communities along the transect if following transect approach, or repeat Steps 7 through 13 at the next vegetation unit. When sampling is completed for this transect, proceed to Step 15, or when sampling is completed for all vegetation units, proceed to Step 16.

Step 15. *Determine the wetland-nonwetland boundary point along the transect.* When the transect contains both wetland and nonwetland plant communities, then a boundary must be established.

Proceed along the transect from the wetland plot toward the nonwetland plot. Look for the occurrence of UPL species, the appearance of nonhydric soil types, subtle changes in hydrologic indicators, and/or slight changes in topography. When such features are noted, establish a new sample plot and repeat Steps 8 through 13. (*Note*: New data sheets must be completed for this new plot.) If this area is a nonwetland, move halfway back along the transect toward the last documented wetland plot and repeat Steps 8 through 13, varying plot size as appropriate. Continue this procedure until the wetland-nonwetland boundary point is found. It is not necessary to complete new data sheets for all intermediate points, but data sheets should be completed for each plot immediately adjacent to the wetland-nonwetland boundary point (i.e., data sheets for each side of the boundary). Mark the position of the wetland boundary point on the base map or photo and stake or flag the boundary in the field, as necessary. Continue along the transect until the boundary points between all wetland and nonwetland plots have been established. (*CAUTION*: In areas with a high interspersion of wetland and nonwetland plant communities, several boundary determinations will be required.) When all wetland determinations along this transect have been completed, proceed to Step 17.

Step 16. *Determine the wetland-nonwetland boundary between adjacent vegetation units.* Review all completed copies of the data sheets for each vegetation unit. Identify each unit as either wetland (W) or nonwetland (N). When adjacent vegetation units contain both wetland and nonwetland communities, a boundary must be established. Walk the interface between the two units from the wetland unit toward the nonwetland unit and look for changes in vegetation, soils, hydrologic indicators, and/or elevation. As a general rule, at 100-foot intervals or whenever changes in the vegetation unit's characteristics are noted, establish a new observation area and repeat Steps 8 through 13. (*Note*: New data sheets must be completed for this new area.) If this area is nonwetland, move back down the gradient about halfway back toward the wetland unit and make additional observations along the interface until wetland is identified. (*Note*: Soils often are more useful than vegetation in establishing the wetland-nonwetland boundary, particularly if there is no obvious vegetation break or when FAC plant species dominate two adjacent vegetation units.) At each designated boundary point, complete data sheets for areas immediately upslope and downslope of the wetland-nonwetland boundary (i.e., one set for the wetland unit and one for the nonwetland unit), record the distance and compass directions between the boundary points and their respective pair of soil samples. Mark the position of the wetland boundary point on the base map or photo and stake or flag the boundary in the field, as necessary. Based on observations along the interface, identify a host of boundary points between each wetland unit and nonwetland unit. Repeat this step for all adjacent vegetation units of wetland and nonwetland. When wetland boundary points between all adjacent wetland and nonwetland units have been established, proceed to Step 18.

Step 17. *Sample other transects and make wetland determinations along each.* Repeat Steps 5 through 15 for each remaining transect. When wetland boundary points for all transects have been established, proceed to Step 18.

Step 18. *Determine the wetland-nonwetland boundary for the entire project area.* Examine all completed copies of the data sheets, and mark the location of each plant community type along the transect on the base map or photo, when used. (*Note*: This has already been done for the vegetation unit approach.) Identify each plant community as either wetland (W) or nonwetland (N), if it has not been done previously. If all plant communities are wetlands, then the entire project area is wetland. If all communities are nonwetlands, then the entire project area is nonwetland. If both wetlands and nonwetlands are present, identify the boundary points on the base map and connect these points on the map by generally following contour lines to separate wetlands from nonwetlands. Confirm this boundary by walking the contour lines between the transects or vegetation units, as appropriate. Should anomalies be encountered, it will be necessary to establish short transects in these areas to refine the boundary; make any necessary adjustments to the boundary on the base map and/or on the ground. It also may be worthwhile to flag these boundary points, especially when marking the boundary for subsequent surveying by engineers.

Comprehensive Onsite Determination Method

4.15. The comprehensive determination method is the most detailed, complex, and labor-intensive approach of the three recommended types of onsite determinations. It is usually reserved for highly complicated and/or large project areas, and/or when the determination requires rigorous documentation. Due to the latter situation, this type of onsite determination may be used for areas of any size.

4.16. In applying this method, a team of experts, including a wetland ecologist and a qualified soil scientist, is often needed, especially when rigorous documentation of plants and soils are required. It is, possible, however, for a highly trained wetland boundary specialist to singly apply this method.

4.17. Two alternative approaches of the comprehensive onsite determination method are presented: (1) quadrat sampling procedure and (2) point intercept sampling procedure. The former approach establishes quadrats or sampling areas in the project site along transects, while the latter approach involves a frequency analysis of vegetation at sampling points along transects. The point intercept sampling procedure requires that the limits of hydric soils be established prior to evaluating the vegetation. In many cases, soil maps are available to meet this requirement, but in other cases a qualified soil scientist may need to inventory the soils before applying this method. The quadrat sampling procedure, which involves identifying plant communities along transects and analyzing vegetation, soils, and hydrology within sample plots (quadrats), may be the preferred approach when soil maps are unavailable or the individual is more familiar with plant identification.

Quadrat Sampling Procedure

4.18. Prior to implementing this determination procedure, read the sections of this manual that discuss disturbed area and problem area wetland determination procedures (pp. 50-59); this information is often relevant to project areas requiring a comprehensive determination.

Step 1. *Locate the limits of the project area in the field.* Previously, the project boundary should have been determined on aerial photos or maps. Now appropriate ground reference points need to be located to ensure that sampling will be conducted in the proper area. Proceed to Step 2.

Step 2. *Stratify the project area into different plant community types.* Delineate the locations of these types on aerial photos or base maps and label each community with an appropriate name. (*CAUTION*: In highly variable terrain, such as ridge and swale complexes, be sure to stratify properly to ensure best results.) In evaluating the subject area, were any significantly disturbed areas observed? If *YES*, identify their limits for they should be evaluated separately for wetland determination purposes (usually after evaluating undisturbed areas). Refer to the section on disturbed areas (p. 50) to evaluate the altered characteristic(s) (i.e., vegetation, soils, and/or hydrology); then return to this method to continue evaluating the characteristics not altered. Keep in mind that if at any time during this determination, it is found that one or more or these three characteristics have been significantly altered, the disturbed areas wetland determination procedures should be followed. If the area is not significantly disturbed, proceed to Step 3.

Step 3. *Establish a baseline for locating sampling transects.* Select as a baseline one project boundary or a conspicuous feature, such as a road, in the project area. The baseline ideally should be more or less parallel to the major watercourse through the area, if present, or perpendicular to the hydrologic gradient (see Figure 5). Determine the approximate baseline length and record its origin, length, and compass heading in a field notebook. When a limited number of transects are planned, a baseline may not be necessary provided there are sufficient fixed points (e.g., buildings, walls, and fences) to serve as starting points for the transects. Proceed to Step 4.

Step 4. *Determine the required number and position of transects.* The number of transects necessary to adequately characterize the site will vary due to the area's size and complexity of habitats. In general, it is best to divide the baseline into a number of equal segments and randomly select a point within each segment to begin a transect (see Figure 5).

Use the following as a guide to determine the appropriate number of baseline segments:

Baseline Length (ft)	Number of Segments	Baseline Segment (ft)
<1,000	3	18 – 333
≥1,000 – 5,000	5	200 – 1,000
≥5,000 – 10,000	7	700 – 1,400
>10,000*	variable	2,000

*If the baseline exceeds five miles, baseline segments should be 0.5 mile in length.

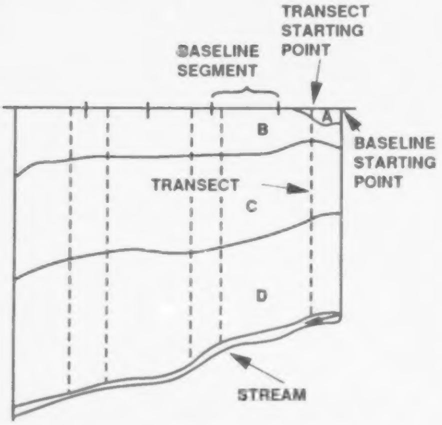

Figure 5. General orientation of baseline and transects in a hypothetical project area. The letters "A", "B", "C", and "D" represent different plant communities. Transect positions were determined using a random numbers table.

Use a random numbers table or a calculator with a random numbers generation feature to determine the position of a transect starting point within each baseline segment. For example, when the baseline is 4,000 feet, the number of baseline segments will be five, and each baseline segment length will be 800 feet (4,000/5). Locate the first transect within the first 800 feet of the baseline. If the random numbers table yields 264 as the distance from the baseline starting point, measure 264 feet from the baseline starting point and establish the starting point of the first transect. If the second random number selected is 530, the starting point of the second transect will be located at a distance of 1,330 feet (800 + 530) from the baseline starting point. Record the location of each transect in a field notebook. When a fixed point such as a stone wall is used as a starting point, be sure to record its position also. *Make sure that each plant community type is included in at least one transect; if not, modify the sampling design accordingly.* When the starting points for all required transects have been located, go to the beginning of the first transect and proceed to Step 5.

Step 5. *Identify sample plots along the transect.* Along each transect, sample plots may be established in two ways: (1) within each plant community encountered (*the plant community transect sampling approach*); or (2) at fixed intervals (*the fixed interval transect sampling approach*); these plots will be used to assess vegetation, soils, and hydrology.

When employing the plant community transect sampling approach, two techniques for identifying sample plots may be followed: (1) walk the entire length of the transect, taking note of the number, type, and location of plant communities present (flag the locations, if necessary) and on the way back to the baseline, record the length of the transect, identify sample plots and perform sampling; or (2) identify plant communities as the transect is walked, sample the plot at that time ("sample as you go"), and record the length of the transect.

When conducting the fixed interval transect sampling approach, establish sample plots along each transect using the following as a guide:

Transect Length (feet)	Number of Sample Plots	Interval Between the Center of Sample Plots (feet)
<1,000	<10	100
1,000 – <10,000	10	100 – 1,000 (based on length of transect)
≥10,000	>10	1,000

The first sample plot should be established at a distance of 50 feet from the baseline. When obvious nonwetlands occupy a long segment of the transect from the baseline, begin the first plot in the nonwetland at approximately 300 feet from the point where the nonwetland begins to intergrade into a potential wetland community type. Keep in mind that additional plots will be required to determine the wetland-nonwetland boundary between fixed points. In large areas having a mosaic of plant communities, one transect may contain several wetland boundaries.

If obstacles such as a body of water or impenetrable thicket prevent access through the length of the transect, access from the opposite side of the project area may be necessary to complete the transect; take appropriate compass reading and location data. At each sample plot (i.e., plant community or fixed interval area), proceed to Step 6.

Step 6. *Determine whether normal environmental conditions are present.* Determine whether normal environmental conditions are present by considering the following:

1) Is the area presently lacking hydrophytic vegetation or hydrologic indicators due to annual, seasonal or long-term fluctuations in precipitation, surface water, or ground-water levels?

2) Are hydrophytic vegetation indicators lacking due to seasonal fluctuations in temperature (e.g., seasonality of plant growth)?

If the answer to either of these questions is *YES* or uncertain, proceed to the section on problem area wetland determinations (p. 55). If the answer to both questions is *NO*, normal conditions are assumed to be present. Proceed to Step 7 when following the plant community transect approach. If following the fixed interval approach, go to the appropriate fixed point along the transect and proceed to Step 8.

Step 7. *Locate a sample plot in the plant community type encountered.* Choose a representative location along the transect in this plant community. Select an area that is no closer than 50 feet from the baseline or from any perceptible change in the plant community type. Mark the center of the sample plot on the base map or photo and flag the point in the field. Additional sample plots should be established within the plant community at 300-foot intervals along the transect or sooner if a different plant community is encountered. (*Note*: In large-sized plant communities, a sampling interval larger than 300 feet may be appropriate, but try to use 300-foot intervals first.) Proceed to Step 8.

Step 8. *Lay out the boundary of the sample plot.* A circular sample plot with a 30-foot radius should be established. (*Note* The size and shape of the plot may be changed to match local conditions.) At the flagged center of the plot, use a compass to divide the circular plot into four equal sampling units at 90°, 180°, 270°, and 360°. Mark the outer points of the plot with flagging. Proceed to Step 9.

Step 9. *Characterize the vegetation and determine dominant species within the sample plot.* Sample the vegetation in each layer or stratum (i.e., tree, sapling, shrub, herb, woody vine, and bryophyte) within the plot using the following procedures for each vegetative stratum and enter data on appropriate data sheet (see Appendix B for examples of data sheet):

1) *Herb stratum*

A) Sample this stratum using corresponding approach:

(1) Plant community transect sampling approach:

(a) Select one of the following designs:

(i) Eight (8) - 8" x 20" sample quadrats (two for each sampling unit within the circular plot); or

(ii) Four (4) - 20" x 20" sample quadrats (one for each sample unit within the plot); or

(iii) Four (4) - 40" x 40" sample quadrats (one for each sample unit).

(*Note*: Alternate shapes of sample quadrats are acceptable provided they are similar in area to those listed above.)

(b) Randomly toss the quadrat frame into the understory of the appropriate sample unit of the plot.

(c) Record percent areal cover of each plant species.

(d) Repeat (b) and (c) as required by the sampling scheme.

(e) Construct a species area curve (see example, Appendix C) for the plot to determine whether the number of quadrats sampled sufficiently represent the vegetation in the stratum; the number of samples necessary corresponds to the point at which the curve levels off horizontally; if necessary, sample additional quadrats within the plot until the curve levels off.

(f) For each plant species sampled, determine the average percent areal cover by summing the percent areal cover for all sample quadrats within the plot and dividing by the total number of quadrats (see example, Appendix C). Proceed to substep B below.

(2) *Fixed interval sampling approach:*

(a) Place one (1) - 40" x 40" sample quadrat centered on the transect point.

(b) Determine percent areal coverage for each species. Proceed to substep B below.

B) Rank plant species by their average percent areal cover, beginning with the most abundant species.

C) Sum the percent cover (fixed interval sampling approach) or average percent cover (plant community transect sampling approach).

D) Determine the dominance threshold number - the number at which 50 percent of the total dominance measure (i.e., total cover) for the stratum is represented by one or more plant species when ranked in descending order of abundance (i.e., from most to least abundant).

E) Sum the cover values for the ranked plant species beginning with the most abundant until the dominance threshold number is immediately exceeded; these species contributing to surpassing the threshold number are considered dominants, *plus* any additional species representing 20 percent or more of the total cover of the stratum; denote dominant species with an asterisk on the appropriate data form.

F) Designate the indicator status of each dominant.

2) *Bryophyte stratum* (mosses, horned liverworts, and true liverworts): Bryophytes may be sampled as a separate stratum in certain wetlands, such as shrub bogs, moss-lichen wetlands, and the wetter wooded swamps, where they are abundant and represent an important component of the plant community. If treated as a separate stratum, follow the same procedures as listed for herb stratum. In many wetlands, however, bryophytes are not abundant and should be included as part of the herb stratum.

3) *Shrub stratum* (woody plants usually between 3 and 20 feet tall, including multi-stemmed, bushy shrubs and small trees below 20 feet):

A) Determine the percent areal cover of shrub species within the entire plot by walking through the plot, listing all shrub species and estimating the percent areal cover of each species.

B) Indicate the appropriate cover class (T and 1 through 7) and its corresponding midpoints (shown in parentheses) for each species: T = <1% cover (None); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

C) Rank shrub species according to their midpoints, from highest to lowest midpoint;

D) Sum the midpoint values of all shrub species.

E) Determine the dominance threshold number - the number at which 50 percent of the total dominance measure (i.e., cover class midpoints) for the stratum is represented by one or more plant species when ranked in descending order of abundance (i.e., from most to least abundant).

F) Sum the midpoint values for the ranked shrub species, beginning with the most abundant, until the dominance threshold number is immediately exceeded; these species are considered dominants, *plus* any additional species representing 20 percent or more of the total midpoint values of the stratum; identify dominant species (e.g., with an asterisk) on the appropriate data form.

G) Designate the indicator status of each dominant.

4) *Sapling stratum* (young or small trees greater than or equal to 20 feet tall *and* with a diameter at breast height less than 5 inches): Follow the same procedures as listed for the shrub stratum or the tree stratum (i.e., plot sampling technique), whichever is preferred.

5) *Woody vine stratum* (climbing or twining woody plants): Follow the same procedures as listed for the shrub stratum.

6) *Tree stratum* (woody plants greater than or equal to 20 feet tall *and* with a diameter at breast height equal to or greater than 5 inches). Two alternative approaches are offered for characterizing the tree stratum:

A) *Plot sampling technique*

This technique involves establishing a sample unit within the 30-foot radius sample plot and determining the basal area of the trees by individual and by species. Basal area for individual trees can be measured directly by using a basal area tape or indirectly by measuring diameter at breast height (dbh) with a diameter tape and converting diameter to basal area using the formula $A = \pi d^2/4$ (where A = basal area, $\pi = 3.1416$, and d = dbh). This technique may be preferred to the plotless technique if only one person is performing a comprehensive determination.

The plot technique involves the following steps:

(1) Locate and mark, if necessary, a sample unit (plot) with a radius of 30 feet, or change the shape of the plot to match topography. (*Note*: A larger sampling unit may be required when trees are large and widely spaced.)

(2) Identify each tree, within the plot, measure its basal area (using a basal area tape) or measure its dbh (using a diameter tape) and compute its basal area, then record data on the data form.

(3) Calculate the total basal area for each tree species by summing the basal area values of all individual trees of each species.

(4) Rank species according to their total basal area, in descending order from largest basai area to lowest.

(5) Calculate the total basal area value of all trees in the plot by summing the total basal area for all species.

(6) Determine the dominant trees species; dominant species are those species (when ranked in descending order and cumulatively totaled) that immediately exceed 50 percent of the total basal area value for the plot, plus any additional species comprising 20 percent or more of the total basal area of the plot; record the dominant species on the appropriate data form.

(7) Designate the indicator status of each dominant (i.e., OBL, FACW, FAC, FACU, or UPL).

B) *Plotless Sampling Technique*

This technique involves determining basal area by using a basal area factor (BAF) prism (e.g., BAF 10 for the East) or an angle gauge to identify individual trees to measure diameter at breast height (dbh) or basal area. This approach is plotless in that trees within and beyond the 30-foot radius plot are recorded depending on their dbh and distance from the sampling point.

(1) Standing near the center of the 30-foot radius plot, hold the prism or angle gauge directly over the center of the plot at a constant distance from the eye and record all trees by species that are "sighted in," while rotating 360° in one direction. (*Note*: Trees with multiple trunks below 4.5 feet should be counted as two or more trees if all trunks are "sighted in." If trunks split above 4.5 feet, count as one tree if "sighted in." Sighting level should approximate 4.5 feet above the ground. With borderline trees, every other tree of a given species should be tallied.)

(2) Measure the dbh of all "sighted in" trees. (*Note*: This should be done as trees are sighted.)

(3) Compute basal area for each tree. (*Note*: When dbh was measured, apply the formula $A = \pi d^2/4$, where A = basal area, $\pi = 3.1416$, and d = dbh. To expedite this calculation, use a hand calculator into which the following conversion factor is

stored - 0.005454 for diameter data in inches or 0.78535 in feet. Basal area in square feet of an individual tree can be obtained by squaring the tree diameter and multiplying by the stored conversion factor.)

(4) Sum the basal areas for individual trees by species, then rank tree species by their total basal area values.

(5) Determine the dominance threshold number by summing the basal areas of all tree species (total basal area for the "plot") and multiplying by 50 percent.

_ (6) Sum the basal area values for the ranked tree species, beginning with the largest value, until the dominance threshold number is immediately exceeded; all species contributing to surpassing the threshold number are considered dominants, plus any species representing 20 percent or more of the total basal area for the "plot." (*Note*: If it is felt that a representative sample of the trees has not been obtained from one tally, additional tallies can be obtained by moving perpendicular from the center of the plot to another area.) Denote dominant species with an asterisk on the appropriate data form.

(7) Designate the indicator status of each dominant (i.e., OBL, FACW, FAC, FACU, or UPL).

After determining the dominants for each stratum, proceed to Step 10.

Step 10. *Determine whether the hydrophytic vegetation criterion is met.* When more than 50 percent of the dominant species in the sample plot have an indicator status of OBL, FACW, and/or FAC, hydrophytic vegetation is present. Complete the vegetation section of the summary data sheet. If the vegetation fails to be dominated by these types of species, the plot is usually not a wetland, however, it may constitute hydrophytic vegetation under certain circumstances (see the problem area wetland discussion, p. 55). If hydrophytic vegetation is present, proceed to Step 11.

Step 11. *Determine whether the hydric soil criterion is met.* Locate the sample plot on a county soil survey map, if possible, and determine the soil map unit delineation for the plot. Using a soil auger, probe, or spade, make a soil hole at least 18 inches deep (2-3 feet to best characterize most soils) in the sample plot. Examine the soil characteristics and compare if possible to soil descriptions in the soil survey report. If soil colors match those described for hydric soil in the report, then record data and proceed to Step 12. If not, then check for hydric soil indicators below the A-horizon (surface layer) and within 18 inches for organic soils and poorly drained and very poorly drained mineral soils with low permeability rates (<6.0 inches/hour), within 12 inches for coarse-textured poorly drained and very poorly drained mineral soils with high permeability rates (≥6.0 inches/hour) and within 6 inches for somewhat poorly drained soils. (*Note*: If the A-horizon extends below the designated depth, look immediately below the A-horizon for signs of hydric soil.) If hydric soil indicators are present (see pp. 13-15), list indicators present on data form and proceed to Step 12. If the soil has been plowed or otherwise altered, which may have eliminated these indicators, proceed to the section on disturbed areas (p. 50). If field indicators are not present, but available information verifies that the hydric soil criterion is met, then the soil is hydric.

Complete the soils section on an appropriate data sheet. (*CAUTION*: Become familiar with problematic hydric soils that do not possess good hydric field indicators, such as red parent material soils, some sandy soils, and some floodplain soils, so that these hydric soils are not misidentified as nonhydric soils; see the section on problem area wetlands, p. 55.)

Step 12. *Determine whether the wetland hydrology criterion is met.* Examine the sample plot for indicators of wetland hydrology (see pp. 17-19) and review available recorded hydrologic information. If one or more indicators of wetland hydrology are materially present in the plot, then the wetland hydrology criterion is met. Available hydrologic data may also verify this criterion. Record observations on the appropriate data form and proceed to Step 13. If no such indicators or evidence exist, then wetland hydrology does not occur at the plot; complete the hydrology section on the data sheet.

Step 13. *Make the wetland determination for the sample plot.* Examine the data forms for the plot. When the plot meets the hydrophytic vegetation, hydric soil, and wetland hydrology criteria, it is considered wetland. Complete the summary data sheet; proceed to Step 14 when continuing to sample transects, or to Step 15 when determining a boundary between wetland and nonwetland sample plots. (*Note*: Double check all data sheets to ensure that they are completed properly before going to another plot.)

Step 14. *Take other samples along the transect.* Repeat Steps 5 through 13, as appropriate. When sampling is completed for this transect proceed to Step 15.

Step 15. *Determine the wetland-nonwetland boundary point along the transect.* When the transect contains both wetland and nonwetland plots, then a boundary must be established. Proceed along the transect from the wetland plot toward the nonwetland plot. Look for the occurrence of upland species, the appearance of nonhydric soil types, subtle changes in hydrologic indicators, and/or slight changes in topography. When such features are noted, establish a new sample plot and repeat Steps 8 through 12. (*Note*: New data sheets must be completed for this new sample plot.) If this area is a nonwetland, move halfway back along the transect toward the last documented wetland plot and repeat Steps 8 through 12, varying plot size as appropriate. (*Note*: Soils generally are more useful than vegetation in establishing the wetland-nonwetland boundary, particularly if there is no evident vegetation break or when FAC species dominate two adjacent areas.) Continue this procedure until the wetland-nonwetland boundary point is found. It is not necessary to complete new data sheets for all intermediate points, but data sheets should be completed for each plot immediately adjacent to the wetland-nonwetland boundary point (i.e., one set for each side of the boundary). Mark the position of the wetland boundary point on the base map or photo and place a surveyor flag or stake at the boundary point in the field, as necessary. Continue along the transect until the boundary points between all wetland and nonwetland plots have been established. (*CAUTION*: In areas with a high interspersion of wetland and nonwetland plant communities, several boundary determinations will be required.) When all wetland determinations along this transect have been completed, proceed to Step 16.

Step 16. *Sample other transects and make wetland determinations along each.* Repeat Steps 5 through 15 for each remaining transect. When wetland boundary points for all transects have been established, proceed to Step 17.

Step 17. *Determine the wetland-nonwetland boundary for the entire project area.* Examine all completed copies of the data sheets and mark the location of each plot on the base map or photo. Identify each plot as either wetland (W) or nonwetland (N) on the map or photo. If all plots are wetlands, then the entire project area is wetland. If all plots are nonwetlands, then the entire project area is nonwetland. If both wetland and nonwetland plots are present, identify the boundary points on the base map or on the ground, and connect these points on the map by generally following contour lines to separate wetlands from nonwetlands. Confirm this boundary on the ground by walking the contour lines between the transects. Should anomalies be encountered, it will be necessary to establish short transects in these areas to refine the boundary, apply Step 15, and make any necessary adjustments to the boundary on the base map and/or on the ground. It may be worthwhile to place surveyor flags or stakes at these boundary points, especially when marking the boundary for subsequent surveying by engineers.

Point Intercept Sampling Procedure

4.19. The point intercept sampling procedure is a frequency analysis of vegetation used in areas that may meet the hydric soil and wetland hydrology criteria (see Part II, p. 5). It involves first identifying areas that may meet the hydric soil and wetland hydrology criteria within the area of concern and then refining the boundaries of areas that meet the hydric soil criterion. Transects are then established for analyzing vegetation and determining the presence of hydrophytic vegetation by calculating a prevalence index. Sample worksheets and a sample problem using this method are presented in Appendices B and D, respectively.

Step 1. *Identify the approximate limits of areas that may meet the hydric soil criterion within the area of concern and sketch limits on an aerial photograph.* To help identify these limits use sources of information such as Agricultural Stabilization and Conservation Service slides, soil surveys, NWI maps, and other maps and photographs. (*Note*: This step is more convenient to perform offsite, but may be done onsite.) Proceed to Step 2.

Step 2. *Scan the areas that may meet the hydric soil criterion and determine if disturbed conditions exist.* Are any significantly disturbed areas present? If *YES*, identify their limits for they should be evaluated separately for wetland determination purposes (usually after evaluating undisturbed areas). Refer to the section on disturbed areas (p. 50), if necessary, to evaluate the altered characteristic(s) (vegetation, soils, or hydrology), then return to this method and continue evaluating characteristics not altered. (*Note*: Prior experience with disturbed sites may allow one to easily evaluate an altered characteristic, such as when vegetation is not present in a farmed wetland due to cultivation.) Keep in mind that if at any time during this determination one or more of these three characteristics is found to have been significantly altered, the disturbed area wetland determination procedures should be followed. If the area is not significantly disturbed, proceed to Step 3.

Step 3. *Scan the areas that may meet the hydric soil criterion and determine if obvious signs of wetland hydrology are present.* The wetland hydrology criterion is met for any area or portion thereof where, it is obvious or known that the area is frequently inundated or saturated to the surface during the growing season. If the above condition exists, the hydric soil criterion is met for the subject area and the area is considered wetland. If necessary, confirm the presence of hydric soil by examining the soil for appropriate field indicators. (*Note*: Hydrophytic vegetation is assumed to be present under these conditions, i.e., undrained hydric soil, so vegetation does not need to be examined. Moreover, hydrophytic vegetation should be obvious in these situations.) Areas lacking obvious indicators of wetland hydrology must be further examined, so proceed to Step 4.

Step 4. *Refine the boundary of areas that meet the hydric soil criterion.* Verify the presence of hydric soil within the appropriate map units by digging a number of holes at least 18 inches deep along the boundary (interface) between hydric soil units and nonhydric soil units. Compare soil samples with descriptions in the soil survey report to see if they are properly mapped, and look for hydric soil characteristics or indicators. In this way, the boundary of areas meeting the hydric soil criterion is further refined by field observations. In map units where only part of the unit is hydric (e.g., complexes, associations, and inclusions), locate hydric soil areas on the ground by considering landscape position and evaluating soil characteristics for hydric soil properties (indicators). (*Note*: Some hydric soils, especially organic soils, have not been given a series name and are referred to by common names, such as peat, muck, swamp, marsh, wet alluvial land, tidal marsh, sulfaquents, and sulfihemists. These areas are also considered hydric soil map units. Certain hydric soils are mapped with nonhydric soils as an association or complex, while other hydric soils occur as inclusions in nonhydric soil map units. Only the hydric soil portion of these map units should be evaluated for hydrophytic vegetation.) In areas where hydric soils are not easily located by landscape position and soil characteristics (morphology), a qualified soil scientist should be consulted. (*CAUTION*: Become familiar with problematic hydric soils that do not possess good hydric field indicators, such as red parent material soils, some sandy soils, and some floodplains soils, so that these hydric soils are not misidentified as nonhydric soils, see section on problem area wetlands, p. 55.) (*Note*: If the project area does not have a soil map, hydric soil areas must be determined in the field to use the point intercept sampling method. Consider landscape position, such as depressions, drainageways, floodplains and seepage slopes, and look for field indicators of hydric soil, then delineate the hydric soil areas accordingly. If the boundary of the hydric soil area cannot be readily delineated, one should use the quadrat sampling procedure on p. 40.)

After establishing the boundary of the area in question, proceed to Step 5.

Step 5. *Determine whether normal environmental conditions are present.* Determine whether normal environmental conditions are present by considering the following:

1) Is the area presently lacking hydrophytic vegetation or hydrologic indicators due to annual, seasonal, or long-term fluctuations in precipitation, surface water, or ground water levels?

2) Are hydrophytic vegetation indicators lacking due to seasonal fluctuations in temperature (e.g., seasonality of plant growth)?

If the answer to either of these questions is *YES* or uncertain, proceed to the section on problem area wetland determinations (p. 55). If the answer to both questions is *NO*, normal conditions are assumed to be present. Proceed to Step 6.

Step 6. *Determine random starting points and random directions for three 200-foot line transects in each area that meets or may meet the hydric soil criterion.* (*Note*: More than three transects may be required depending on the standard error obtained for the three transects.) There are many ways to determine random starting points and random transect direction. The following procedures are suggested:

1) *Starting point* – Superimpose a grid over an aerial photo or map of the study area. Assign numbers (1, 2, 3 ...N) to each vertical and horizontal line on the grid. Starting points for a transect are selected by using a table for generating random numbers or other suitable method. The first selected digit represents a line on the horizontal axis; the second, the vertical axis. The intersection of the two lines establishes a starting point.

2) *Transect direction* – At a starting point, spin a pencil or similar pointed object in the air and let it fall to the ground. The direction that the pencil is pointing indicates the direction of the transect. Proceed to Step 7.

Step 7. *Lay out the transect in the established direction.* If the transect crosses the hydric soil boundary (into the nonhydric soil area), bend the line back into the hydric soil area by randomly selecting a new direction for the transect following the procedure suggested above. Mark the approximate location of the transect on a base map or aerial photo. Proceed to Step 8.

Step 8. *Record plant data (e.g., species name, indicator group, and number of occurrences) at interval points along the transect.* At the starting point and at each point on 2-foot intervals along the transect, record all plants that would intersect an imaginary vertical line extending through the point. If this line has no plants intersecting it (either above or below the sample point), record nothing.

Identify each plant observed to species (or other taxonomic category if species cannot be identified), enter species name on the Prevalence Index Worksheet, and record all occurrences of each species along the transect. For each species listed, identify its indicator group from the appropriate regional list of plant species that occur in wetlands (i.e., OBL, FACW, FAC, FACU, and UPL; see p. 5). Plant species not recorded on the lists are assumed to be upland species. If no regional indicator status and only one national indicator status is assigned, apply the national indicator status to the species. If no regional indicator status is assigned and more than one national indicator status is assigned, do not use the species to calculate a prevalence index. If the plant species is on the list and no regional or national indicator status is assigned, do not use the species to calculate the prevalence index. *For a transect to be valid for a prevalence calculation, at least 80 percent of the occurrences must be plants that have been identified and placed in an indicator group.* Get help in plant identification if necessary. (*Note*: Unidentified plants or plants without indicator status are recorded but are not used to calculate the prevalence index.) Proceed to Step 9.

Step 9. *Calculate the total frequency of occurrences for each species (or other taxonomic category), for each indicator group of plants, and for all plant species observed, and enter on the Prevalence Index Worksheet.* The frequency of occurrences of a plant species equals the number of times it occurs at the sampling points along the transect. Proceed to Step 10.

Step 10. *Calculate the prevalence index for the transect using the following formula:*

$$PI_i = \frac{F_o + 2F_{fw} + 3F_f + 4F_{fu} + 5F_u}{F_o + F_{fw} + F_f + F_{fu} + F_u}$$

where

PI_i = Prevalence Index for transect i;
F_o = Frequency of occurrence of obligate wetland species;
F_{fw} = Frequency of occurrence of facultative wetland species;
F_f = Frequency of occurrence of facultative species;
F_{fu} = Frequency of occurrence of facultative upland species;
F_u = Frequency of occurrence of upland species.

After calculating and recording the prevalence index for this transect, proceed to Step 11.

Step 11. ***Repeat Steps 5 through 10 for two other transects.*** After completing the three transects, proceed to Step 12.

Step 12. *Calculate a mean prevalence index for the three transects.* To be considered wetland, a hydric soil area usually must have a mean prevalence index (PI_M) of less than 3.0. A minimum of three transects are required in each delineated area of hydric soil, but enough transects are required so that the standard error for PI_M does not exceed 0.20 percent.

Compute the mean prevalence index for the three transects by using the following formula:

$$PI_M = \frac{PI_T}{N}$$

where

PI_M = mean prevalence index for transects;
PI_T = sum of prevalence index values for all transects;
N = total number of transects.

After computing the mean prevalence index for the three transects, proceed to Step 13.

Step 13. *Calculate the standard deviation (s) for the prevalence index* using the following formula:

$$s = \sqrt{\frac{(PI_1-PI_M)^2 + (PI_2-PI_M)^2 + (PI_3-PI_M)^2}{N-1}}$$

(*Note*: See formulas in Steps 8 and 10 for symbol definitions.)

After performing this calculation, proceed to Step 14.

Step 14. *Calculate the standard error ($s\bar{x}$) of the mean prevalence index using the following formula:*

$$s\bar{x} = \frac{s}{\sqrt{N}}$$

where

s = standard deviation for the Prevalence Index
N = total number of transects

(*Note*: The $s\bar{x}$ cannot exceed 0.20. If $s\bar{x}$ exceeds 0.20, one or more additional transects are required. Repeat Steps 6 through 14, as necessary, for each additional transect.) When $s\bar{x}$ for all transects does not exceed 0.20, proceed to Step 15.

Step 15. *Record final mean prevalence index value for each hydric soil map unit and make a wetland determination.* All areas having a mean prevalence index of less than 3.0 meet the hydrophytic vegetation criterion (see p. 5). One should also look for evidence or field indicators of wetland hydrology, especially if there is some question as to whether the wetland hydrology criterion is met. If such evidence or indicators are present or the area's hydrology has not been disturbed, then the area is considered a wetland. If the area has been hydrologically disturbed, one must determine whether the area is effectively drained before making a wetland determination (see disturbed area discussion, p. 50). If the area is effectively drained, it is considered nonwetland; if it is not, the wetland hydrology criterion is met and the area is considered a wetland.

Areas where the prevalence index value is greater than or equal to 3.0 (especially greater than 3.5) are usually not wetlands, but can, on occasion, be wetlands. These exceptions are disturbed or problem area wetlands (see discussion on pp. 50-59) and further evaluation of wetland hydrology must be undertaken. When the prevalence index falls between 3.0 and 3.5 (inclusive) in the absence of significant hydrologic modification, the area is presumed to meet the wetland hydrology criterion and is, therefore, wetland; the plant community is considered hydrophytic vegetation since the plants are growing in an undrained hydric soil. If the prevalence index of the plant community is greater than 3.5, stronger evidence of wetland hydrology is required to make a wetland determination. Walk through the area of concern and look for field indicators of wetland hydrology. If field observations, aerial photographs or other reliable sources provide direct evidence of inundation or soil saturation within 6, 12, or 18 inches depending on soil permeability and drainage class for one week or more during the growing season, or if oxidized channels (rhizospheres) are present around living roots and rhizomes of any plants, or if water-stained leaves caused by inundation are present, then these areas are considered to meet the wetland hydrology criteria and are wetlands. If direct evidence or these field indicators are not present, then one must use best professional judgement to make the wetland determination. In doing so, one should review the problem area wetland discussion (p. 55), consider other hydrologic indicators that may be present (see pp. 17-19), and perhaps even consult with a wetland expert to assist in the determination.

Disturbed Area and Problem Area Wetland Determination Procedures

4.20. In the course of field investigations, one will undoubtedly encounter significantly disturbed or altered areas, or natural areas where making a wetland determination is not easy. Disturbed areas include situations where field indicators of one or more of the three wetland identification criteria are obliterated or not present due to recent change. In contrast, there are other wetlands that, under natural conditions, are simply difficult to identify, such as wetlands dominated by FACU species, wetlands lacking field indicators for one or more of the technical criteria for wetlands, and wetlands occurring on difficult to identify hydric soils. These wetlands are considered problem area wetlands. The following sections discuss these difficult, confounding situations and present procedures for distinguishing wetlands from nonwetlands.

Disturbed Areas

4.21. Disturbed areas have been altered either recently or in the past in some way that makes wetland identification more difficult than it would be in the absence of such changes. Disturbed areas include both wetlands and nonwetlands that have been modified to varying degrees by human activities (e.g., filling, excavation, clearing, damming, and building construction) or by natural events (e.g., avalanches, mudslides, fire, volcanic deposition, and beaver dams). Such activities and events change the character of the area often making it difficult to identify field characteristics of one or more of the wetland identification criteria (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology). Disturbed wetlands include areas subjected to deposition of fill or dredged material, removal or other alteration of vegetation, conversion to agricultural land and silviculture plantations, and construction of levees, channelization and drainage systems, and/or dams (e.g., reservoirs and beaver dams) that significantly modify an area's hydrology. In cases where recent human activities have caused these changes, it may be necessary to determine the date of the alteration or conversion for legal purposes. (*Note*: If the activity occurred prior to the effective date of regulation or other jurisdiction, it may not be necessary to make a wetland determination for regulatory purposes.) In considering the effects of natural events (e.g., a wetland buried by a mudslide), the relative permanence of the change and whether the area is still functioning as a wetland must be considered.

4.22. In disturbed wetlands, field indicators for one or more of the three technical criteria for wetland identification are usually absent. It may be necessary to determine whether the "missing" indicator(s) (especially wetland hydrology) existed prior to alteration. To do this requires review of aerial photographs, existing maps, and other available information about the site, and may involve evaluating a nearby reference site (similar to the original character of the one altered) for indicator(s) of the "altered" characteristic.

4.23. When a significantly disturbed condition is detected during an onsite determination, the following steps should be taken to determine if the "missing" indicator(s) was present before alteration and whether the criterion in question was originally met. Be sure to record findings on the appropriate data form. After completing the necessary steps below, return to the applicable step of the onsite determination method being used and continue evaluating the site's characteristics.

Step 1. *Determine whether vegetation, soils, and/or hydrology have been significantly altered at the site.* Proceed to Step 2.

Step 2. *Determine whether the "altered" characteristic met the wetland criterion in question prior to site alteration.* Review existing information for the area (e.g., aerial photos, NWI maps, soil surveys, hydrologic data, and previous site inspection reports) contact knowledgeable persons familiar with the area, and conduct an onsite inspection to build supportive evidence. The strongest evidence involves considering all of the above *plus* evaluating a nearby reference site (an area similar to the one altered before modification) for field indicators of the three technical criteria for wetland. If a human activity or natural event altered the vegetation, proceed to Step 3; the soils, proceed to Step 4; the hydrology, proceed to Step 5.

Step 3. *Determine whether hydrophytic vegetation previously occurred:*

1) *Describe the type of alteration.* Examine the area and describe the type of alteration that occurred. Look for evidence of selective harvesting, clearcutting, bulldozing, recent conversion to agriculture, or other activities (e.g., burning, discing, the presence of buildings, dams, levees, roads, and parking lots).

2) *Determine the approximate date when the alteration occurred if necessary.* Check aerial photographs, examine building permits, consult with local individuals, and review other possible sources of information.

3) *Describe the effects on the vegetation.* Generally describe how the recent activities and events have affected the plant communities. Consider the following:

A) Has all or a portion of the area been cleared of vegetation?

B) Has only one layer of the plant community (e.g., trees) been removed?

C) Has selective harvesting resulted in the removal of some species?

D) Has the vegetation been burned, mowed, or heavily grazed?

E) Has the vegetation been covered by fill, dredged material, or structures?

F) Have increased water levels resulted in the death of all or some of the vegetation?

4) *Determine whether the area had hydrophytic vegetation communities.* Develop a list of species that previously occurred at the site from existing information, if possible, and determine presence of hydrophytic vegetation. If site-specific data do not exist, evaluate a neighboring undisturbed area (reference site) with characteristics (i.e., vegetation, soils, hydrology, and topography) similar to the area in question prior to its alteration. Be sure to record the location and major characteristics (vegetation, soils, hydrology, and topography) of the reference site. Sample the vegetation in this reference area using an appropriate onsite determination method to determine whether hydrophytic vegetation is present. If hydrophytic vegetation is present at the reference site, then hydrophytic vegetation is presumed to have existed in the altered area. If no indicators of hydrophytic vegetation are found at the reference site, then the original vegetation at the project area is not considered hydrophytic vegetation. If soils and/or hydrology also have been disturbed, then continue Steps 4, 5, and 6 below, as necessary. Otherwise, return to the applicable step of the onsite determination method being used.

Step 4. *Determine whether or not hydric soils previously occurred:*

1) *Describe the type of alteration.* Examine the area and describe the type of alteration that occurred. Look for evidence of:

A) *deposition of dredged or fill material or natural sedimentation* - In many cases the presence of fill material will be obvious. If so, it will be necessary to dig a hole to reach the original soil (sometimes several feet deep). Fill material will usually be a different color or texture than the original soil (except when fill material has been obtained from similar areas onsite). Look for decomposing vegetation between soil layers and the presence of buried organic or hydric mineral soil layers. In accreting or recently formed sandbars in riverine situations, the soils may support hydrophytic vegetation but lack hydric soil indicators.

B) *presence of nonwoody debris at the surface* - This can only be applied in areas where the original soils do not contain rocks. Nonwoody debris includes items such as rocks, bricks, and concrete fragments.

C) *subsurface plowing* - Has the area recently been plowed below the A-horizon or to depths of greater than 10 inches?

D) *removal of surface layers* - Has the surface soil layer been removed by scraping or natural landslides? Look for bare soil surfaces with exposed plant roots or scrape scars on the surface.

E) *presence of manmade structures* - Are buildings, dams, levees, roads, or parking lots present?

2) *Determine the approximate date when the alteration occurred, if necessary.* Check aerial photographs, examine building permits, consult with local individuals, and review other possible sources of information.

3) *Describe the effects on soils.* Consider the following:

A) Has the soil been buried? If so, record the depth of fill material and determine whether the original soil was left intact or disturbed. (*Note*: The presence of a typical sequence of soil horizons or layers in the buried soil is an indication that the soil is still intact; check description in the soil survey report.)

B) Has the soil been mixed at a depth below the A-horizon or greater than 10 inches? If so, it will be necessary to examine the soil at a depth immediately below the plow layer or disturbed zone.

C) Has the soil been sufficiently altered to change the soil phase? Describe these changes. If a hydric soil has been drained to some extent, refer to Step 5 below to determine whether soil is effectively drained or is still hydric.

4) *Characterize the soils that previously existed at the disturbed site.* Obtain all possible evidence that may be used to characterize soils that previously occurred on the area. Consider the following potential sources of information:

A) *soil surveys* - In many cases, recent soil surveys are available. If so, determine the soils that were mapped for the area. If all soils are hydric soils, it is presumed that the entire area had hydric soils prior to alteration.

B) *buried soils* - When fill material has been placed over the original soil without physically disturbing the soil, examine and characterize the buried soils. Dig a hole through the fill material until the original soil is encountered. Determine the point at which the original soil material begins. Remove 18 inches of the original soil from the hole and look for indicators of hydric soils immediately below the A-horizon and within 6-18 inches (depending on soil permeability and drainage class). Be sure to record the color of the soil matrix, presence of an organic layer, presence of mottles or gleying, and/or presence of iron and manganese concretions. (*Note*: When the fill material is a thick layer, it might be necessary to use a backhoe or posthole digger to excavate the soil pit.) If USGS topographic maps indicate distinct variation in the area's topography, this procedure must be applied in each portion of the area that originally had a different surface elevation.

C) *plowed soils* - Determine the depth to which the soil has been disturbed by plowing. Look for hydric soil characteristics immediately below this depth.

D) *removed surface layers* - Dig a hole 18 inches deep and determine whether the entire surface layer (A-horizon) has been removed. If so, examine the soil immediately below the top of the subsurface layer (B-horizon) for hydric soil characteristics. As an alternative, examine an undisturbed soil of the same soil series occurring at the same topographic position in an immediately adjacent undisturbed reference area. Look for hydric soil indicators immediately below the A-horizon and within 18 inches of the surface. Record and use these data to determine the presence of hydric soils in substep 5 below.

5) *Determine whether hydric soils were present at the project area prior to alteration.* Examine the available data and determine whether indicators of hydric soils were formerly present. If no indicators and/or evidence of hydric soils are found, the original soils are considered nonhydric soils. If indicators and/or evidence of hydric soils are found the hydric soil criterion has been met. Continue to Step 5 if hydrology also was altered. Otherwise, record decision and return to the applicable step of the onsite determination method being used.

Step 5. *Determine whether wetland hydrology existed prior to alteration or whether wetland hydrology still exists (i.e., is the area effectively drained?).* To determine whether wetland hydrology still occurs, proceed to Step 6. To determine whether wetland hydrology existed prior to the alteration:

1) *Describe the type of alteration.* Examine the area and describe the type of alteration that occurred. Look for evidence of:

A) *dams* - Has recent construction of a dam or some natural event (e.g., beaver activity or landslide) caused the area to become increasingly wetter or drier? (*Note*: This activity could have occurred at a considerable distance from the site in question, so be aware of and consider the impacts of major dams in the watershed above the project area.)

B) *levees, dikes, and similar structures* - Have levees or dikes been recently constructed that prevent the area from periodic overbank flooding?

C) *ditches* - Have ditches been recently constructed causing the area to drain more rapidly?

D) *channelization* - Have feeder streams recently been channelized sufficiently to alter the frequency and/or duration of inundation?

E) *filling of channels and/or depressions (land-leveling)* - Have natural channels or depressions been recently filled?

F) *diversion of water* - Has an upstream drainage pattern been altered that results in water being diverted from the area?

G) *groundwater withdrawal* - Has prolonged and intensive pumping of groundwater for irrigation or other purposes significantly lowered the water table and/or altered drainage patterns?

2) *Determine the approximate date when the alteration occurred, if necessary.* Check aerial photographs, consult with local individuals, and review other possible sources of information.

3) *Describe the effects of the alteration on the area's hydrology.* Consider the following and generally describe how the observed alteration affected the project area:

A) Is the area more frequently or less frequently inundated than prior to alteration? To what degree and why?

B) Is the duration of inundation and soil saturation different than prior to alteration? How much different and why?

4) *Characterize the hydrology that previously existed at the area.* Obtain and record all possible evidence that may be useful for characterizing the previous hydrology. Consider the following:

A) *stream or tidal gauge data* - If a stream or tidal gauging station is located near the area, it may be possible to calculate elevations representing the upper limit of wetland hydrology based on duration of inundation. Consult SCS district offices, hydrologists from the local CE district offices or other agencies for assistance. If fill material has not been placed on the area, survey this elevation from the nearest USGS benchmark. If fill material has been placed on the area, compare the calculated elevation with elevations shown on a USGS topographic map or any other survey map that predates site alteration.

B) *field hydrologic indicators onsite or in a neighboring reference area* - Certain field indicators of wetland hydrology may still be present. Look for water marks on trees or other structures, drift lines, and debris deposits (see pp. 17-19 for additional hydrology indicators). If adjacent undisturbed areas are in the same topographic position, have the same soils (check soil survey map), and are similarly influenced by the same sources of inundation, look for wetland hydrology indicators in these areas.

C) *aerial photographs* - Examine aerial photographs and determine whether the area has been inundated or saturated during the growing season. Consider the time of the year that the aerial photographs were taken and use only photographs taken prior to site alteration.

D) *historical records* - Examine historical records for evidence that the area has been periodically inundated. Obtain copies of any such information.

E) *National Flood Insurance Agency flood maps* - Determine the previous frequency of inundation of the area from national floods maps (if available).

F) *local government officials or other knowledgeable individuals* - Contact individuals who might have knowledge that the area was periodically inundated or saturated.

If sufficient data on hydrology that existed prior to site alteration are not available to determine whether wetland hydrology was previously present, then use the other wetland identification criteria (i.e., hydrophytic vegetation and hydric soils) to make a wetland determination.

5) *Determine whether wetland hydrology previously occurred.* Examine available data. If no indicators of wetland hydrology are found, and other evidence of wetland hydrology is lacking, the original hydrology of the area is not considered wetland hydrology. If wetland hydrology indicators and other evidence of wetland hydrology are found, the area meets the wetland hydrology criterion. Record decision and return to the applicable step of the onsite determination method being used.

Step 6. *Determine whether wetland hydrology still exists.* Many wetlands have a single ditch dissecting them, while others may have an extensive network of ditches. A single ditch through a wetland may not be sufficient to effectively drain it; in other words, the wetland hydrology criterion still may be met under these circumstances. Undoubtedly, when ditches are observed, questions as to the extent of drainage arise, especially if the ditches are part of a more elaborate stream channelization or other drainage project. In these cases and other situations where the hydrology of an area has been significantly altered (e.g., dams, levees, groundwater withdrawals, and water diversions), one must determine whether wetland hydrology still exists. If it is present, the area is not effectively drained. To determine whether wetland hydrology still exists:

1) *Describe the type or nature of the alteration.* Look for evidence of:

A) *dams;*
B) *levees, dikes, and similar structures;*
C) *ditches;*
D) *channelization;*
E) *filling of channels and/or depressions;*
F) *diversion of water; and*
G) *groundwater withdrawal.*

(See Step 5 above for discussion of these factors.)

2) *Determine the approximate date when the alteration occurred, if necessary.* Check aerial photographs, consult with local officials, and review other possible sources of information.

3) *Characterize the hydrology that presently exists at the area.* The following sequence of actions is recommended:

A) *Review existing information* (e.g., stream gauge data, groundwater well data, and recent observations) to learn if data provide evidence that wetland hydrology is still present.

B) *Examine early spring or wet growing season aerial photographs for several recent years and look for signs of inundation and/or soil saturation.* (*Note*: Large-scale aerial photographs, 1:24,000 and larger, are preferred.) These signs of wetness indicate that the area still meets the wetland hydrology criterion. If these signs are observed, return to the applicable step of the onsite determination method being used. If such signs are not present, then one should conduct an onsite inspection as follows.

C) *Inspect the site on the ground, look for field indicators of wetland hydrology, and assess changes in the plant community, if necessary.* If field indicators of wetland hydrology (excluding hydric soil morphological characteristics) are present, then wetland hydrology exists; return to the applicable step of the onsite determination method being used. If such indicators are lacking, then examine the vegetation following an appropriate onsite determination method. If OBL and FACW plant species (especially in the herb stratum) are dominant or scattered throughout the site and UPL species are absent or not dominant, the area is considered to meet the wetland hydrology criterion and remains wetland. If UPL species predominate one or more strata (i.e., they represent more than 50 percent of the dominants in a given stratum) and no OBL species are present, then the area is considered effectively drained and no longer wetland. If the vegetation differs from the above situations, then the vegetation at this site should be compared if possible with a nearby undisturbed reference area, so proceed to substep 3D; if it is not possible to evaluate a reference site and the area is ditched, channelized or tile-drained, go to substep 3E, or else go to substep 3F.

D) *Locate a nearby undisturbed reference site with vegetation, soils, hydrology, and topography similar to the subject area prior to its alteration, examine the vegetation (following an appropriate onsite delineation method), and compare it with the vegetation at the project site.* If the vegetation is similar, (i.e., has the same dominants or the subject area has different dominants with the same indicator status as the reference site) then the area is considered to be wetland -- the wetland hydrology criterion is presumed to be satisfied. If the vegetation has changed to where FACU and UPL species or UPL species alone predominate and OBL species are absent, then the area is considered effectively drained and is nonwetland. If the vegetation is different than indicated above, additional work is required -- go to substep 3E if the area is ditched, channelized, or tile-drained, or to substep 3F if the hydrology is modified in other ways.

E) *Determine the "zone of influence" of the ditch (or drainage structure) and the effect on the water table by using existing SCS soil drainage guides.* Obtain the appropriate guide for the project area's soil(s) and collect necessary field measurements (e.g., ditch or other drainage structure dimensions) to use the guide. The zone of influence is the area affected by the ditch. The size of this zone depends on many factors including ditch dimensions, water budget, and soil type. The guide should help identify the extent of the zone as well as the water table within the zone. If the zone of influence has a water table that fails to meet the wetland hydrology criterion, then the zone is effectively drained and is nonwetland, while hydric soil areas outside of the zone remain wetland. If the wetland hydrology criterion is met within the zone, the entire area remains wetland.

F) *Conduct detailed groundwater studies.* Make direct observations of inundation and soil saturation by establishing groundwater wells throughout the site, being sure to place them in a range of elevations so that the data obtained will be representative of the site as a whole. To maximize field effort, it may be best to collect data during the wetter part of the growing season (e.g., early spring in temperate regions). These direct observations, when made during a normal rainfall year, should show whether the wetland hydrology criterion is met. It is advisable, however, to take measurements over a multi-year period. (*Note*: One must be aware of regional weather patterns. For example, observations made during a number of consecutive dry years may lead to erroneous conclusions about wetland hydrology.)

If wetland hydrology still exists, return to the applicable step in the onsite determination method being used and continue delineating the wetland.

Problem Area Wetlands

4.24. There are certain types of wetlands and/or conditions that may make wetland identification difficult because field indicators of the three wetland identification criteria may be absent, at least at certain times of the year. These wetlands are considered problem area wetlands and not disturbed wetlands, because the difficulty in identification is generally due to normal environmental conditions and not the result of human activities or catastrophic natural events, with the exception of newly created wetlands. Artificial wetlands are also included in this section because their identification presents problems similar to some of the natural problem area wetlands.

4.25. Examples of these problem area wetlands are discussed below. Be sure to learn how to recognize these wetlands.

1) *Wetlands dominated by FACU plant species (or communities with a prevalence index greater than 3.5).* Since wetlands often exist along a natural wetness gradient between permanently flooded substrates and better drained soils, the wetland plant communities sometimes may be dominated by FACU species. Although FACU-dominated plant communities are usually uplands, they sometimes become established in wetlands. In order to determine whether a FACU-dominated plant community constitutes hydrophytic vegetation, the soil and hydrology must be examined. If the area meets the hydric soil and wetland hydrology criteria (see pp. 6-7), then the vegetation is hydrophytic.

In these plant communities, take the following steps to make a wetland determination:

Step 1. *Are 25 percent or more and 50 percent or less of the dominant plants in the plant community OBL, FACW, and/or FAC species, or does the community have a prevalence index greater than 3.5 and less than or equal to 4.0 ?* If the answer is *YES*, then proceed to Step 3. If *NO*, proceed to Step 2.

Step 2. *Is the community located: (1) in a depressional or flat area, (2) along a river, stream or drainageway, or (3) adjacent to a more typical wetland plant community (i.e., where greater than 50 percent of the dominants are OBL, FACW, and/or FAC, or where the prevalence index is less than or equal to 3.5)?* If *YES*, proceed to Step 3. If *NO*, the plant community is usually nonwetland (proceed to Step 3 if any question). Record the data and return to the applicable step of the onsite determination method being used.

Step 3. *Are hydric soils present?* If *YES*, record the data and proceed to Step 4. If *NO*, then the area is nonwetland and the plant community is not hydrophytic. Record the data and return to the applicable step of the onsite determination method being used. (*CAUTION*: Become familiar with problematic hydric soils that do not possess good hydric field indicators, such as red parent material soils, some sandy soils, and some floodplain soils, so that these hydric soils are not misidentified as nonhydric soils; see pp. 58-59.)

Step 4. Answer the following questions:

1) Is there evidence of inundation or soil saturation during the growing season, as indicated by aerial photographs, recorded hydrologic data, previous site inspections, testimony of reliable persons, or direct observations?

2) Are oxidized channels (rhizospheres) present along the living roots and rhizomes of any plants growing in the area?

3) Are water-stained leaves caused by inundation present in the area?

If the answer is *YES* to one or more of these questions, then the area showing these signs is a wetland. Record the data and return to the applicable step of the onsite determination method being used. If the answer *NO* to all questions, proceed to Step 5.

Step 5. *Use one's best professional judgement in determining whether the FACU-dominated community is wetland or nonwetland. Consider the following questions in making this determination:*

1) Are other indicators of wetland hydrology present? (See pp.17-19.)

2) Are observations being made during the dry time of the year? Would conditions be different enough during the wetter part of growing season to affect the determination?

3) Could this plant community be one of the problem area wetlands listed in the following subsection?

4) Is the dominant vegetation introduced or planted? (*Note*: If *YES*, one may choose to evaluate a nearby reference site having natural vegetation.)

5) Could the plant community reflect succession in a wetland?

6) Are OBL or UPL species present in substantial numbers?

7) If the area is forested, does a nearby reference area (where timber has not been harvested) have a plant community where more than 50 percent of the dominant species from all strata are OBL, FACW, and/or FAC species, or a plant community with a prevalence index of less than 3.0?

8) Is the region experiencing a series of dry years or long-term drought during the natural hydrologic cycle and could vegetation be reflecting this condition? If so, is hydrophytic vegetation present during the wet phase of the cycle?

9) Is the area exposed to wide annual fluctuations in vegetation, i.e., wet season vegetation is hydrophytic, while dry season vegetation is dominated by FACU and UPL species?

10) Is the area designated as wetland on National Wetlands Inventory maps, USGS topographic maps, or other maps?

In making a determination in these situations, it may be advisable to consult a wetland expert. Decide whether the area is wetland or nonwetland, record data, and return to the applicable step of the onsite determination method being used.

2) *Evergreen forested wetlands* - Wetlands dominated by evergreen trees occur in many parts of the country. In some cases, the trees are OBL, FACW, and FAC species, e.g., Atlantic white cedar (*Chamaecyparis thyoides*), black spruce (*Picea mariana*), balsam fir (*Abies balsamea*), slash pine (*Pinus elliottii*), and loblolly pine (*P. taeda*). In other cases, however, the dominant evergreen trees are FACU species, including red spruce

(*Picea rubens*), Engelmann spruce (*P. engelmannii*), white spruce (*P. glauca*), Sitka spruce (*P. sitchensis*), eastern white pine (*Pinus strobus*), pitch pine (*P. rigida*), lodgepole pine (*P. contorta*), longleaf pine (*P. palustris*), ponderosa pine (*P. ponderosa*), red pine (*P. resinosa*), jack pine (*P. banksiana*), eastern hemlock (*Tsuga canadensis*), western hemlock (*T. heterophylla*), Pacific silver fir (*Abies amabilis*), white fir (*A. concolor*), and subalpine fir (*A. lasiocarpa*). In dense stands, these evergreen trees may preclude the establishment of understory vegetation or, in some cases, understory vegetation is also FACU species. Since these plant communities are usually found on nonwetlands, the ones established in wetland areas may be difficult to recognize at first glance. The landscape position of the evergreen forested areas such as depressions, drainageways, bottomlands, flats in sloping terrain, and seepage slopes, should be considered because it often provides good clues to the likelihood of wetland. Soils also should be examined in these situations. For identification, follow procedures for FACU-dominated wetlands described above.

3) *Wetlands on glacial till* - Sloping wetlands occur in glaciated areas where thin soils cover relatively impermeable glacial till or where layers of glacial till have different hydraulic conditions that permit groundwater seepage. Such areas are seldom, if ever, flooded, but downslope groundwater movement keeps the soils saturated for a sufficient portion of the growing season to produce anaerobic and reducing soil conditions. This promotes development of hydric soils and hydrophytic vegetation. Indicators of wetland hydrology may be lacking during the drier portion of the growing season. Hydric soil indicators also may be lacking because certain areas are so rocky that it is difficult to examine soil characteristics within 18 inches.

4) *Highly variable seasonal wetlands* - In many regions (especially in arid and semiarid regions), depressional areas occur that may have indicators of all three wetland criteria during the wetter portion of the growing season, but normally lack indicators of wetland hydrology and/or hydrophytic vegetation during the drier portion of the growing season. In addition, some of these areas lack field indicators of hydric soil. OBL and FACW plant species normally are dominant during the wetter portion of the growing season, while FACU and UPL species (usually annuals) may be dominant during the drier portion of the growing season and during and for some time after droughts. Examples of highly variable seasonal wetlands are pothole wetlands in the upper Midwest, playa wetlands in the Southwest, and vernal pools along the coast of California. Become familiar with the ecology of these and similar types of wetlands (see Appendix A for readings). Also, be particularly aware of drought conditions that permit invasion of UPL species (even perennials).

5) *Interdunal swale wetlands* - Along the U.S. coastline, seasonally wet swales supporting hydrophytic vegetation are located within sand dune complexes on barrier islands and beaches. Some of these swales are inundated or saturated to the surface for considerable periods during the growing season, while others are wet for only the early part of the season. In some cases, swales may be flooded irregularly by the tides. These wetlands have sandy soils that generally lack field indicators of hydric soil. In addition, indicators of wetland hydrology may be absent during the drier part of the growing season. Consequently, these wetlands may be difficult to identify.

6) *Vegetated river bars and adjacent flats* - Along western streams in arid and semiarid parts of the country, some river bars and flats may be vegetated by FACU species while others may be colonized by wetter species. If these areas are frequently inundated for one or more weeks during the growing season, they are wetlands. The soils often do not reflect the characteristic field indicators of hydric soils, however, and thereby pose delineation problems.

7) *Vegetated flats* - Vegetated flats are characterized by a marked seasonal periodicity in plant growth. They are dominated by annual OBL species, such as wild rice (*Zizania aquatica*), and/or perennial OBL species, such as spatterdock (*Nuphar luteum*), that have nonpersistent vegetative parts (i.e., leaves and stems breakdown rapidly during the winter, providing no evidence of the plant on the wetland surface at the beginning of the next growing season). During winter and early spring, these areas lack vegetative cover and resemble mud flats; therefore, they do not appear to qualify as wetlands. But during the growing season the vegetation becomes increasingly evident, qualifying the area as wetland. In evaluating these areas, which occur both in coastal and interior parts of the country, one must consider the time of year of the field observation and the seasonality of the

vegetation. Again, one must become familiar with the ecology of these wetland types (see Appendix A for readings).

8) *Caprock limestone wetlands* - These wetlands are found in the Everglades region of southern Florida. The substrate, commonly called "rockland," is composed mainly of Miami oolite or Tamiami limestone with a very thin covering of unconsolidated soil material in places. Plant communities are varied ranging from saw grass (*Cladium jamaicense;* OBL) marshes to slash pine (*Pinus elliottii*; FACW) forested wetlands. However, exotic species with drier indicator statuses are invading many areas and replacing native species. These exotics include Brazilian pepper (*Schinus terebinthifolius*; FAC), cajeput (*Melaleuca quinquenervis*; FAC), and Australian pines (*Casuarina* spp.; FACU). These wetlands are inundated annually and the water table is at or near the land surface for prolonged periods, as long as nine months in places. Hydric soils may not be present in many places in these wetlands, since substrate (consolidated material) predominates and little or no soil (unconsolidated material) may exist. Despite the lack of hydric soils in places, these areas are wetlands because they meet the wetland hydrology criterion.

9) *Newly created wetlands* - These wetlands include manmade (artificial) wetlands, beaver-created wetlands, and other natural wetlands. Artificial wetlands may be purposely or accidentally created (e.g., road impoundments, undersized culverts, irrigation, and seepage from earth-dammed impoundments) by human activities. Many of these areas will have indicators of wetland hydrology and hydrophytic vegetation. But the area may lack typical field characteristics of hydric soils, since the soils have just recently been inundated and/or saturated. Since all of these wetlands are newly established, field indicators of one or more of the wetland identification criteria may not be present.

10) *Entisols (floodplain and sandy soils)* - Entisols are usually young or recently formed soils that have little or no evidence of pedogenically developed horizons (U.S.D.A. Soil Survey Staff 1975). These soils are typical of floodplains throughout the U.S., but are also found in glacial outwash plains, along tidal waters, and in other areas. They include sandy soils of riverine islands, bars, and banks and finer-textured soils of floodplain terraces. Wet entisols have an aquic or peraquic moisture regime and are considered hydric soils, unless effectively drained. Some entisols are easily recognized as hydric soils such as the sulfaquents of tidal salt marshes, whereas others pose problems because they do not possess typical hydric soil field indicators. Wet sandy entisols (with loamy fine sand and coarser textures in horizons within 20 inches of the surface) may lack sufficient organic matter and clay to develop hydric soil colors. When these soils have a hue between 10YR and 10Y and distinct or prominent mottles present, a chroma of 3 or less is permitted to identify the soil as hydric (i.e., an aquic moisture regime). Also, hydrologic data showing that NTCHS criteria #3 or #4 (p. 6) are met are sufficient to verify these soils as hydric. Become familiar with wet entisols and their diagnostic field properties (see "Soil Taxonomy", U.S.D.A. Soil Survey Staff 1975 and county soil surveys).

11) *Red parent material soils* - Hydric mineral soils derived from red parent materials (e.g., weathered clays, Triassic sandstones, and Triassic shales) may lack the low chroma colors characteristic of most hydric mineral soils. In these soils, the hue is redder than 10YR because of parent materials that remain red after citrate-dithionite extraction, so the low chroma requirement for hydric soil is waived (U.S.D.A. Soil Conservation Service 1982). Red soils are most common along the Gulf-Atlantic Coastal Plain (Ultisols), but are also found in the Midwest and parts of the Southwest and West (Alfisols), in the tropics, and in glacial areas where older landscapes of red shales and sandstones have been exposed. Become familiar with these hydric soils and learn how to recognize them in the field (see "Soil Taxonomy", U.S.D.A. Soil Survey Staff 1975 and county soil surveys).

12) *Spodosols (evergreen forest soils)* - These soils, usually associated with coniferous forests, are common in northern temperate and boreal regions of the U.S. and are also prevalent along the Gulf-Atlantic Coastal Plain. Spodosols have a gray eluvial E-horizon overlying a diagnostic spodic horizon of accumulated (sometimes weakly cemented) organic matter and aluminum (U.S.D.A. Soil Survey Staff 1975). A process called podzolization is responsible for creating these two soil layers. Organic acids from the leaf litter on the soil surface are moved downward through the soil with rainfall, cleaning the sand grains in the first horizon then coating the sand grains with organic matter and iron oxides in the second layer. Certain vegeta-

tion produce organic acids that speed podzolization including eastern hemlock (*Tsuga canadensis*), spruces (*Picea* spp.), pine (*Pinus* spp.), larches (*Larix* spp.), and oaks (*Quercus* spp.) (Buol, *et al.* 1980). To the untrained observer, the gray leached layer may be mistaken as a field indicator of hydric soil, but if one looks below the spodic horizon the brighter matrix colors often distinguish nonhydric spodosols from hydric ones. The wet spodosols (formerly called "groundwater podzolic soils") usually have thick dark surface horizons, dull gray E-horizons, and low chroma subsoils. Become familiar with these soils and their diagnostic properties (see "Soil Taxonomy", U.S.D.A. Soil Survey Staff 1975 and county soil surveys).

13) *Mollisols (prairie and steppe soils)* - Mollisols are dark colored, base-rich soils. They are common in the central part of the conterminous U.S. from eastern Illinois to Montana and south to Texas. Natural vegetation is mainly tall grass prairies and short grass steppes. These soils typically have deep, dark topsoil layers (mollic epipedons) and low chroma matrix colors to considerable depths. They are rich in organic matter due largely to the vegetation (deep roots) and reworking of the soil and organic matter by earthworms, ants, moles, and rodents. The low chroma colors of mollisols are not necessarily due to prolonged saturation, so be particularly careful in making wetland determinations in these soils. Become familiar with the characteristics of mollisols with aquic moisture regimes, since they are usually hydric, unless effectively drained, and be able to recognize these from nonhydric mollisols (see "Soil Taxonomy", U.S.D.A. Soil Survey Staff 1975 and county soil surveys).

4.26. The steps for making wetland determinations in problem area wetlands, except FACU-dominated wetlands, are presented below. (*Note*: Procedures for FACU-dominated communities are on pp. 55-56.) Application of these steps is appropriate only when a decision has been made during an onsite determination that wetland indicators of one or more criteria were lacking. Specific procedures to be used will vary according to the nature of the area, site conditions, and affected criterion. A determination must be based on the best available evidence, including: (1) information obtained from such sources as aerial photos, wetland maps, soil survey maps, and hydrologic records; (2) field data collected during an onsite inspection; and (3) basic knowledge of the ecology of the particular wetland type and associated environmental conditions. (*Note*: The following procedures should only be applied to situations not adequately characterized by the onsite methods in Part IV. Be sure to record necessary information on appropriate data forms.)

Step 1. *Identify each criterion to be reconsidered and determine the reason for further consideration.* Consider how environmental conditions have affected the criterion in question (hydrophytic vegetation, hydric soil, and/or wetland hydrology). If hydrophytic vegetation is the criterion in question and the plant community is FACU-dominated, then follow special procedures presented earlier in this section (see pp. 55-56). Proceed to Step 2.

Step 2. *Document available information on each criterion in question.* Examine the available information and consider personal experience and knowledge of wetland ecology and the range of normal environmental conditions of the area. Contact local experts (e.g., government agency and university scientists) for additional information, if possible. Proceed to Step 3.

Step 3. *Determine whether each wetland criterion in question is met.* If no information can be found that demonstrates that the wetland criterion in question is satisfied, the area is nonwetland. (*EXCEPTION*: Caprock limestone wetlands do not meet the hydric soil criterion where limestone rock is the predominant substrate; this is an exception to the rule.)

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Glossary

Adaptation - The condition of showing fitness for a particular environment, as applied to characteristics of a structure, function, or entire organism; a modification of a species that makes it more fit for reproduction and/or existence under the conditions of its environment.

Adventitious roots - Roots found on plant stems in positions where roots normally do not occur.

Aerenchymous tissue (Aerenchyma) - A type of plant tissue in which cells are unusually large, resulting in large air spaces in the plant organ; such tissues are often referred to as spongy and usually provide increased buoyancy.

Aerobic - A condition in which molecular oxygen is a part of the environment.

Alfisols - Soils having significantly more clay in the B-horizon than in the A-horizon and high base status.

Anaerobic - A condition in which molecular oxygen is absent (or effectively so) from the environment.

Annual - Occurring yearly or, as in annual plants, living for only one year.

Aqualfs - Soils with an aquic or peraquic moisture regime and having clay accumulating in the B-horizon; wet Alfisols.

Aquents - Soils with an aquic or peraquic moisture regime and lacking distinct soil horizons in the subsoil; wet Entisols.

Aquepts - Soils with an aquic moisture regime and showing some soil development in the B-horizon; wet Inceptisols.

Aquic moisture regime - A moisture condition associated with a seasonal reducing environment that is virtually free of dissolved oxygen because the soil is saturated by ground water or by water of the capillary fringe, as in soils in Aquic suborders and Aquic subgroups.

Aquods - Soils having an accumulation of iron, aluminum, and organic matter in the B-horizon in addition to having an aquic moisture regime; wet Spodosols.

Areal cover - A measure of dominance that defines the degree to which above ground portions of plants cover the ground surface; it is possible for the total areal cover for all strata combined in a community or for single stratum to exceed 100 percent because: 1) most plant communities consist of two or more vegetative strata; 2) areal cover is estimated by vegetative layer; and 3) foliage within a single layer may overlap.

Disturbed condition - As used herein, this term refers to areas in which indicators of one or more characteristics (vegetation, soil, and/or hydrology) have been sufficiently altered by man's activities or natural events so as to make it more difficult to recognize whether or not the wetland identification criteria are met.
Artificial wetlands - Wetlands created by the activities of man, either purposefully or accidentally.

Basal area - The cross-sectional area of a tree trunk measured in square inches, square centimeters, etc.; basal area is normally measured at 4.5 feet above ground level and is used as a measure of dominance; the most commonly used tool for measuring basal area is a diameter tape or a D-tape (then convert to basal area).

Baseline - A line, generally a highway, unimproved road, or some other evident feature, from which sampling transects extend into a site for which a jurisdictional wetland determination is to be made.

Bench mark - A fixed, more or less permanent reference point or object of known elevation; the U.S. Geological Survey (USGS) installs brass caps in bridge abutments or otherwise permanently sets bench marks at convenient locations nationwide; the elevations on these marks are referenced to the National Geodetic Vertical Datum (NGVD), also commonly known as mean sea level (MSL); locations of these bench marks on USGS topographic maps are shown as small triangles; since the marks are sometimes destroyed by construction or vandalism, the existence of any bench mark should be field verified before planning work which relies on a particular reference point; the USGS or local state surveyors office can provide information on the existence, exact location and exact elevation of bench marks.

Biennial - An event that occurs at 2-year intervals.

Bog - A shrub peatland dominated by ericaceous shrubs (Family *Ericaceae*), sedges, and peat moss (*Sphagnum* spp.) and usually having a saturated water regime or a forested peatland dominated by evergreen trees (usually spruces and firs) and/or larch (*Larix laricina*).

Boreal region - The geographical area just below the arctic tundra and usually characterized by evergreen forests.

Bryophytes - A major taxonomic group of nonvascular plants comprised of true liverworts, horned liverworts, and mosses.

Buried soil - Soil covered by an alluvial, loessal, or other deposit (including manmade), usually to a depth greater than the thickness of the solum.

Buttressed - The swollen or enlarged bases of trees developed in response to conditions of prolonged inundation.

Capillary fringe - A zone immediately above the water table in which water is drawn upward from the water table by capillary action.

Chemical reduction - Any process by which one compound or ion acts as an electron donor; in such cases, the valence state of the electron donor is decreased.

Chroma - The relative purity or saturation of a color; intensity of distinctive hue as related to grayness; one of the three variables of color.

Comprehensive wetland determination - A type of wetland determination that is based on the strongest possible evidence, requiring the collection of quantitative data for all three wetland identification criteria.

Concretion - A localized concentration of chemical compounds (e.g., calcium carbonate and iron oxide) in the form of a grain or nodule of varying size, shape, hardness, and color; concretions of significance in hydric soils are usually iron oxides and manganese oxides occurring at or near the soil surface, which have developed under conditions of fluctuating water tables.

Contour - An imaginary line of constant elevation on the ground surface; the corresponding line on a map is called a "contour line".

Cover class - A category into which plant species would fit based upon their percent areal cover; the cover classes used (midpoints in parentheses) are T = <1% cover (0), 1 = 1-5% (3.0), 2 = 6-15% (10.5), 3 = 16-25% (20.5), 4 = 26-50% (38.0), 5 = 51-75% (63.0), 6 = 76-95% (85.5), 7 = 96-100% (98.0).

Criteria - Technical requirements upon which a judgment or decision may be based.

Deepwater habitat - Any open water area in which the mean water depth exceeds 6.6 feet at mean low water in nontidal and freshwater tidal areas, or is below extreme low water at spring tides in salt and brackish tidal areas, or the maximum depth of emerging vegetation, whichever is greater.

Density - The number of individuals per unit area.

Detritus - Fragments of plant parts found on the soil surface or in water; when fused together by algae or soil particles, this detritus is an indicator that the soil surface was recently inundated.

Diameter at breast height (dbh) - The width of a plant stem (e.g., tree trunk) as measured at 4.5 feet above the ground surface.

Dike - An embankment (usually of earth) constructed to keep water in or out of a given area.

Disturbed area - An area where vegetation, soil, and/or hydrology have been significantly altered, thereby making a wetland determination difficult.

Dominance - As used herein, refers to the spatial extent of a species; commonly the most abundant species in each vegetation stratum that, when ranked in descending order of abundance and cumulatively totaled, immediately exceeds 50 percent of the total dominance measure (e.g., areal cover or basal area) for the stratum, plus any additional species comprising 20 percent or more of the total dominance measure for the stratum.

Dominance measure - The means or method by which dominance is established, including areal coverage and basal area; the total dominance measure is the sum total of the dominance measure values for all species comprising a given stratum.

Dominance threshold number - The number at which 50 percent of the total dominance measure for a given stratum is represented by one or more plant species when ranked in descending order of abundance (i.e., from most to least abundant); when this number is immediately exceeded, the dominant species for the stratum are realized.

Dominant species - For each stratum, dominant species are those that, when ranked in descending rank order and cumulatively totaled, immediately exceed 50 percent of the total dominance measure (i.e., the dominance threshold number), plus any additional species comprising 20 percent or more of the total dominance measure for the stratum.

Drained, effectively - A condition where ground or surface water has been removed by artificial means to the point that an area no longer meets the wetland hydrology criterion.

Drift line - An accumulation of water-carried debris along a contour or at the base of vegetation that provides direct evidence of prior inundation and often indicates the directional flow of flood waters.

Duff - The matted, partly decomposed, organic surface layer of forested soils.

Duration (of inundation or soil saturation) - The length of time that water stands above the soil surface (inundation), or that water fills most soil pores near the soil surface; as used herein, "duration" refers to a period during the growing season.

Entisols - Soils of slight or recent development; common along rivers and floodplains.

Evergreen (plant) - Retaining its leaves at the end of the growing season and usually remaining green through the winter.

Facultative species - Species that can occur both in wetlands and uplands; there are three subcategories of facultative species: (1) *facultative wetland plants* (FACW) that usually occur in wetlands (estimated probability 67-99%), but occasionally are found in nonwetlands, (2) *facultative plants* (FAC) that are equally likely to occur in wetlands or nonwetlands (estimated probability 34-66%), and (3) *facultative upland plants* (FACU) that usually occur in nonwetlands (estimated probability 67-99%), but occasionally are found in wetlands (estimated probability 1-33%).

Fern allies - A group of nonflowering vascular plants comprised of clubmosses (Family Lycopodiaceae), small clubmosses (Family Selaginellaceae), and quillworts (Family Isoetaceae).

Fibrists - Organic soils (peats) in which plant remains show very little decomposition and retain their original shape; more than two-thirds of the fibers remain after rubbing the materials between the fingers.

Flooded - A condition in which the soil surface is temporarily covered with flowing water from any source, such as streams overflowing their banks, runoff from adjacent or surrounding slopes, inflow from high tides, or any combination of sources.

Flooding, frequent - Flooding is likely to occur often during usual weather conditions (i.e., more that a 50 percent chance of flooding in any year, or more than 50 times in 100 years).

Flora - A list or manual of all plant species that may occur in an area.

Fluvents - Floodplain soils, characterized by buried horizons and irregularly decreasing amounts of organic matter with depth.

Forbs - Broad-leaved herbs, in contrast to bryophytes, ferns, fern allies, and graminoids.

Frequency (of inundation or soil saturation) - The periodicity of coverage of an area by surface water or saturation of the soil; it is usually expressed as the number of years the soil is inundated or saturated during part of the growing season of the prevalent vegetation (e.g., 50 years per 100 years) or as a 1-, 2-, 5-year, etc., inundation frequency.

Frequency analysis - A method of evaluating vegetation in an area by establishing a transect and counting the occurrences of plant species at various sampling points along the transect.

Frequency of occurrence - The number of times a given plant species occurs at sample points along a transect.

Gleization - A process in saturated or nearly saturated soils which involves the reduction of iron, its segregation into mottles and concretions, or its removal by leaching from the gleyed horizon.

Gleyed - A soil condition resulting from gleization which is manifested by the presence of neutral grey, bluish or greenish colors through the soil matrix or in mottles (spots or streaks) among other colors.

Graminoids - Grasses (Family Gramineae or Poaceae) and grasslike plants such as sedges (Family Cyperaceae) and rushes (Family Juncaceae).

Ground water - That portion of the water below the surface of the ground whose pressure is greater than atmospheric pressure.

Growing season - The portion of the year when soil temperatures are above biologic zero (41° F) as defined by "Soil Taxonomy;" the following growing season months are assumed for each of the soil temperature regimes: (1) thermic (February-October); (2) mesic (March-October); (3) frigid (May-September); (4) cryic (June-August); (5) pergelic (July-August); (6) isohyperthermic (January-December); (7) hyperthermic (February-December), (8) isothermic (January-December) and (9) isomesic (January-December).

Hardpan - A very dense soil layer caused by compaction or cementation of soil particles by organic matter, silica, sesquioxides, or calcium carbonate, for example.

Hemists - Organic soils (mucky peats and peaty mucks) in which plant remains show a fair amount of decomposition; between one-third and two-thirds of the fibers are still visible upon rubbing the material between the fingers.

Herb - Nonwoody (herbaceous) plants including graminoids (grass and grasslike plants), forbs, ferns, fern allies, and nonwoody vines; for the purposes of this manual, seedlings of woody plants that are less than three feet in height are also considered herbs.

Herb stratum - Any vegetative layer of a plant community that is composed predominantly of herbs.

Histic epipedon - A 8- to 16-inch soil layer at or near the surface that is saturated for 30 consecutive days or more during the growing season in most years and contains a minimum of 20 percent organic matter when no clay is present or a minimum of 30 percent of organic matter when 60 percent or more clay is present; generally a thin horizon of peat or muck if the soil has not been plowed.

Histosols - An order in "Soil Taxonomy" (Soil Survey Staff 1975) composed of organic soils (mucks and peats) that have organic soil materials in more than half of the upper 32 inches or that are of any thickness if overlying rock.

Horizon - A distinct layer of soil, more or less parallel with the soil surface, having similar properties such as color, texture, and permeability; the soil profile is subdivided into the following major horizons: A-horizon, characterized by an accumulation of organic material; B-horizon, characterized by relative accumulation of clay, iron, organic matter, or aluminum; and the C-horizon, the undisturbed and unaltered parent material. (*Note*: Some soils have an E-horizon, characterized by leaching of organic and other material.)

Hue - A characteristic of color related to one of the main spectral colors (red, yellow, green, blue, or purple), or various combinations of these principle colors; one of the three variables of color; each color chart in the Munsell Soil Color Charts (Kollmorgen Corporation 1975) represents a specific hue.

Hydric soil - A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part.

Hydrology - The science dealing with the properties, distribution, and circulation of water.

Hydrophyte - Any macrophyte that grows in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content; plants typically found in wetlands and other aquatic habitats.

Hydrophytic vegetation - Plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.

Hypertrophied lenticels - An exaggerated (oversized) pore on the stem of woody plants through which gases are exchanged between the plant and the atmosphere; serving to increase oxygen to plant roots during periods of inundation or soil saturation.

Indicator - An event, entity, or condition that typically characterizes a prescribed environment or situation; indicators determine or aid in determining whether or not certain stated circumstances exist or criteria are satisfied.

Inundation - A condition in which water temporarily or permanently covers a land surface.

Levee - A natural or manmade feature of the landscape that restricts movement of water into or through an area.

Litter - The undecomposed plant and animal material found above the duff layer on the forest floor.

Long duration (flooding) - A duration class in which inundation for a single event ranges from 7 days to 1 month.

Macrophyte - Any plant species that can be readily observed without the aid of optical magnification, including all vascular plant species and bryophytes (e.g., *Sphagnum* spp.), as well as large algae (e.g. *Chara* spp., and *Fucus* spp.).

Manmade wetland - Any wetland area that has been purposely or accidentally created by some activity of man; also called artificial wetlands.

Map unit - A portion of a map that depicts an area having some common characteristic.

Matrix - The natural soil material composed of both mineral and organic matter; matrix color refers to the predominant color of the soil in a particular horizon.

Microbial - Pertaining to work by microorganisms too small to be seen with the naked eye.

Mineral soil - Any soil consisting primarily of mineral (sand, silt, and clay) material, rather than organic matter.

Mollisols - Grassland soils of steppes and prairies characterized by deep topsoil (mollic epipedon); common in the Great Plains of the West.

Morphological adaptation - A structural feature that aids in fitting a species to its particular environment (e.g., buttressed bases, adventitious roots, and aerenchymous tissue).

Morphological features - Properties related to the external structure of soil (such as color and texture) or of plants.

Moss-lichen wetland - A wetland dominated by mosses (mainly peat mosses) and lichens with little taller vegetation.

Mottles - Spots or blotches of different color or shades of color interspersed within the dominant matrix color in a soil layer; distinct mottles are readily seen and easily distinguished from the color of the matrix; prominent mottles are obvious and mottling is one of the outstanding features of the horizon.

Nonhydric soil - A soil that has developed under predominantly aerobic soil conditions.

Nonpersistent vegetation - Plants that break down readily after the growing season; no evidence of previous year's growth at beginning of next growing season.

Nontidal - Not influenced by tides.

Nonwetland - Any area that has sufficiently dry conditions that hydrophytic vegetation, hydric soils, and/or wetland hydrology are lacking; it includes upland as well as former wetlands that are effectively drained.

Normal circumstances - Refers to the soil and hydrology conditions that are normally present, without regard to whether the vegetation has been removed.

Obligate wetland species - A plant species that is nearly always found in wetlands; its frequency of occurrence in wetlands is 99% or more.

Offsite determination method - A technique for making a wetland determination in the office.

Onsite determination method - A technique for making a wetland determination in the field.

Organic soil - See Histosols.

Overbank flooding - Any situation in which inundation occurs as a result of the water level of a river or stream rising above bank level.

Oxidation-reduction process - A complex of biochemical reactions in soil that influences the valence state of elements and their ions found in the soil; long periods of soil saturation during the growing season tend to elicit anaerobic conditions that shift the overall process to a reducing condition.

Oxidized rhizospheres - Oxidized channels and soil surrounding living roots and rhizomes of hydrophytic plants.

Parent material - The unconsolidated and more or less weathered mineral or organic matter from which the soil profile is developed.

Pedogenic - Related to soil-building processes occurring within the soil.

Peraquic moisture regime - A soil condition in which reducing conditions always occur due to the presence of ground water at or near the soil surface.

Perennial (plant) - Living for many years.

Periodically - Used herein, to define detectable regular or irregular saturated soil conditions or inundation, resulting from ponding of ground water, precipitation, overland flow, stream flooding, or tidal influences that occur(s) with hours, days, weeks, months, or even years between events.

Permanently flooded - A water regime condition where standing water covers the land surface throughout the year (but may be absent during extreme droughts).

Permeability - The quality of the soil that enables water to move downward through the profile, measured as the number of inches per hour that water moves downward through the saturated soil.

Phase, soil - A subdivision of a series based on features such as slope, surface texture, stoniness, and thickness.

Physiological adaptation - A peculiarity of the basic physical and chemical activities that occur in cells and tissues of a species, which results in it being better fitted to its environment (e.g., ability to absorb nutrients under low oxygen tensions).

Plant community - The plant populations existing in a shared habitat or environment.

Playa - Periodically flooded wetland basin common in parts of the Southwest.

Pneumatophore - Modified roots rising above ground that may function as a respiratory organ in species subjected to frequent inundation or soil saturation.

Podzolization - The process by which sesquioxides (aluminum and iron) are leached from the A-horizon and precipitated in the B-horizon, often resulting in a leached layer, the E-horizon.

Polymorphic (leaves) - Two or more different types of leaves formed on plants; in wetland plants, polymorphic leaves may develop due to extended flooding.

Ponded - A condition in which free water covers the soil surface, for example, in a closed depression; the water is removed only by percolation, evaporation, or transpiration.

Poorly drained - A condition in which water is removed from the soil so slowly that the soil is saturated periodically during the growing season or remains wet for long periods greater than 7 days.

Pothole - A depressional wetland commonly found in Upper Midwest (North and South Dakota and western Minnesota) and similar wetlands found elsewhere.

Prevalence index - A weighted average measure of the sum of the frequency of occurrences of all species along a single transect or as calculated for a plant community by averaging the prevalence index of all sample transects through the community.

Problem area wetland - A wetland that is difficult to identify because it may lack indicators of wetland hydrology and/or hydric soils, or its dominant plant species are more common in nonwetlands.

Profile - Vertical section of the soil through all its horizons and extending into the parent material.

Quadrat - Sample units or plots that vary in size, shape, number, and arrangements, depending on the nature of the vegetation, site conditions, and purpose of study.

Quantitative - A precise measurement or determination expressed numerically.

Range - The set of conditions throughout which an organism (e.g., plant species) naturally occurs.

Reduction - The process of changing an element from a higher to a lower oxidation state as in the reduction of ferric (Fe3+) iron into ferrous iron (Fe2+).

Relative basal area - An estimate of basal area for trees, such as produced by the Bitterlich sampling technique.

Relief - The change in elevation of a land surface between two points; collectively, the configuration of the earth's surface, including such features as hills and valleys.

Reproductive adaptation - A peculiarity of the reproductive mechanism of a species that results in it being better fitted to its environment (e.g., prolonged seed dormancy).

Rhizosphere - The zone of soil in which interactions between living plant roots and microorganisms occur.

Salic horizon - A layer 6 inches or more thick comprised of secondary soluble salts.

Salorthids - Soils of arid regions with a salic horizon within 30 inches of the surface and saturated within 40 inches for one month or more in most years; common in playas of the Southwest.

Sample plot - As used herein, an observation point at which a wetland determination is made.

Sapling - Woody vegetation between 0.4 and 5.0 inches in diameter at breast height and greater than or equal to 20 feet in height, exclusive of woody vines.

Saprists - Organic soils (mucks) in which most of the plant material is decomposed and the original constituents cannot be recognized; less than one-third of the fibers remain visible upon rubbing the material between the fingers.

Saturated - A condition in which all easily drained voids (pores) between soil particles are temporarily or permanently filled with water; significant saturation during the growing season is considered to be usually one week or more.

Seedling - A young tree that is generally less than 3 feet high.

Shrub - Woody vegetation usually greater than 3 feet but less than 20 feet tall, including multi-stemmed, bushy shrubs and small trees and saplings. (*Note*: Woody seedlings less than 3 feet tall are considered part of the herbaceous layer.)

Soil - Unconsolidated material on the earth's surface that supports or is capable of supporting plants out-of-doors.

Soil horizon - A layer of soil or soil material approximately parallel to the land surface and differing from adjacent genetically related layers in physical, chemical, and biological properties or characteristics (e.g., color, structure, and texture).

Soil matrix - The portion of a given soil having the dominant color; in most cases, the matrix will be the portion of the soil having more than 50 percent of the same color.

Soil permeability - The ease with which gases, liquids, or plant roots penetrate or pass through a layer of soil.

Soil phase - A subdivision of a soil series having features (e.g., slope, surface texture, and stoniness) that affect the use and management of the soil, but which do not vary sufficiently to differentiate it as a separate series.

Soil pore - An area within soil occupied by either air or water, resulting from the arrangement of individual soil particles or peds.

Soil profile - A vertical section of the soil through all its horizons and extending into the parent material.

Soil series - A group of soils having horizons similar in differentiating characteristics and arrangements in the soil profile, except for texture of the surface layer.

Soil structure - The combination or arrangement of primary soil particles into secondary particles, units, or peds.

Soil surface - The upper limits of the soil profile; for mineral soils, the upper limits of the highest mineral horizon (A-horizon); for organic soils, the upper limit of undecomposed organic matter.

Soil texture - The relative proportions of the various sizes of particles (silt, sand and clay) in a soil.

Somewhat poorly drained - A condition in which water is removed slowly enough that the soil is wet for significant periods during the growing season.

Species area curve - The curve on a graph produced when plotting the cumulative number of plant species found in a series of quadrats against the cumulative number or area of those quadrats; it is used to determine the number of quadrats sufficient to adequately survey the herb stratum.

Spodic horizon - A subsurface layer of soil characterized by the accumulation of aluminum oxides (with or without iron oxides) and organic matter; a diagnostic horizon for Spodosols.

Stratigraphy - A term referring to the origin, composition, distribution, and succession of geologic strata (layers).

Stratum - A layer of vegetation used to determine dominant species in a plant community.

Suborder (soils) - Second highest taxonomic level of the current U.S. soil classification system.

Substrate - nonsoil.

Surface water - Water present above the substrate or soil surface.

Temperate region - The geographic area having a climate that is neither very hot nor very cold.

Tidal - A situation in which the water level periodically fluctuates due to the action of lunar (moon) and solar (sun) forces upon the rotating earth.

Topography - The configuration of a surface, including its relief and the position of its natural and manmade features.

Transect - A line on the ground along which sample plots or points are established for collecting vegetation data and in many cases, soil and hydrology data as well.

Translocation - The transfer of matter from one location to another within the soil.

Transpiration - The process in plants by which water is released into the gaseous environment (atmosphere), primarily through stomata.

Tree - A woody plant 5 inches or greater in diameter at breast height and 20 feet or taller.

Typical - That which normally, usually, or commonly occurs.

Ultisols - Highly weathered soils having significantly more clay in the B-horizon than in the A-horizon and having low base status; acidic soils common in the Southeast.

Unconsolidated parent material - Material from which a soil develops.

Upland - Any area that does not qualify as a wetland because the associated hydrologic regime is not sufficiently wet to elicit development of vegetation, soils, and/or hydrologic characteristics associated with wetlands. Such areas occurring in floodplains are more appropriately termed nonwetlands.

Value (soil color) - The relative lightness or intensity of color; approximately a function of the square root of the total amount of light; one of the three variables of color.

Vascular (plant) - Possessing a well-developed system of conducting tissue to transport water, mineral salts, and foods within the plant.

Vegetation - The sum total of macrophytes that occupy a given area.

Vegetation unit - A patch, grouping, or zone of plants evident in overall plant cover, which appears distinct from other such units because of the vegetation's structure and floristic composition; a given unit is typically topographically distinct and typically has a rather uniform soil, except possibly for relatively dry microsites (e.g., tree bases, old tree stumps, mosquito ditch spoil piles, and small earth hummocks) in an otherwise wet area or relatively wet microsites (e.g., small depressions) in an otherwise dry area.

Very long duration (flooding) - A duration class in which inundation for a single event is greater than 1 month.

Vertisols - Shrinking and swelling dark clay soils; most common in Texas.

Very poorly drained - A condition in which water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season.

Water mark - A line on vegetation or other upright structures that represents the maximum height reached in an inundation event.

Water table - The zone of saturation at the highest average depth during the wettest season; it is at least six inches thick and persists in the soil for more than a few weeks.

Wetlands - As used herein, areas that under normal circumstances have hydrophytic vegetation, hydric soils, and wetland hydrology.

Wetland boundary - The point on the ground at which a shift from wetlands to nonwetlands occurs.

Wetland determination - The process by which an area is identified as a wetland or nonwetland.

Wetland hydrology - In general terms, permanent or periodic inundation or prolonged soil saturation sufficient to create anaerobic conditions in the soil.

Wetland indicator status - The exclusiveness with which a plant species occurs in wetlands; the different indicator categories (i.e., facultative species, and obligate wetland species) are defined elsewhere in this glossary.

Wooded swamp - A wetland dominated by trees; a forested wetland.

Zone of influence - The area contiguous to a ditch, channel, or other drainage structure that is directly affected by it.

Appendix A
Selected Wetland References

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Appendix B
Examples of Data Sheets

DATA FORM
ROUTINE ONSITE DETERMINATION METHOD[1]

Field Investigator(s): ______________________________ **Date:** ______________
Project/Site: ______________________________ **State:** ________ **County:** ______________
Applicant/Owner: ______________________ **Plant Community #/Name:** ______________
Note: **If a more detailed site description is necessary, use the back of data form or a field notebook.**

Do normal environmental conditions exist at the plant community?
Yes _____ No _____ (If no, explain on back)
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes _____ No _____ (If yes, explain on back)

VEGETATION

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1.			11.		
2.			12.		
3.			13.		
4.			14.		
5.			15.		
6.			16.		
7.			17.		
8.			18.		
9.			19.		
10.			20.		

Percent of dominant species that are OBL, FACW, and/or FAC ______________
Is the hydrophytic vegetation criterion met? Yes _____ No _____
Rationale: ______________________________

SOILS

Series/phase: ______________________ **Subgroup:**[2] ______________
Is the soil on the hydric soils list? Yes _____ No _____ Undetermined ______________
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No _____ Gleyed? Yes _____ No _____
Matrix Color: ______________ **Mottle Colors:** ______________
Other hydric soil indicators: ______________________________
Is the hydric soil criterion met? Yes _____ No _____
Rationale: ______________________________

HYDROLOGY

Is the ground surface inundated? Yes _____ No _____ Surface water depth: ______________
Is the soil saturated? Yes _____ No _____
Depth to free-standing water in pit/soil probe hole: ______________________________
List other field evidence of surface inundation or soil saturation.
____
Is the wetland hydrology criterion met? Yes _____ No _____
Rationale: ______________________________

JURISDICTIONAL DETERMINATION AND RATIONALE

Is the plant community a wetland? Yes _____ No _____
Rationale for jurisdictional decision: ______________________________

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[1] This data form can be used for the Hydric Soil Assessment Procedure and the Plant Community Assessment Procedure.
[2] Classification according to "Soil Taxonomy."

DATA FORM
INTERMEDIATE-LEVEL ONSITE DETERMINATION METHOD
QUADRAT TRANSECT SAMPLING PROCEDURE
(Vegetation Data)

Field Investigator(s): ____________________
Project/Site: ____________________ Date: __________
Applicant/Owner: ____________________ State: __________ County: __________
Transect # _______ Plot # _______

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

DOMINANT PLANT SPECIES

Herbs (Bryophytes)	Indicator Status	Saplings	Indicator Status
1. ____________	______	1. ____________	______
2. ____________	______	2. ____________	______
3. ____________	______	3. ____________	______
4. ____________	______	4. ____________	______
5. ____________	______	5. ____________	______
6. ____________	______	6. ____________	______
7. ____________	______	7. ____________	______
8. ____________	______	8. ____________	______
9. ____________	______	9. ____________	______
10. ____________	______	10. ____________	______
11. ____________	______	11. ____________	______
12. ____________	______	12. ____________	______
13. ____________	______	13. ____________	______
Shrubs		**Trees**	
1. ____________	______	1. ____________	______
2. ____________	______	2. ____________	______
3. ____________	______	3. ____________	______
4. ____________	______	4. ____________	______
5. ____________	______	5. ____________	______
6. ____________	______	6. ____________	______
7. ____________	______	7. ____________	______
8. ____________	______	8. ____________	______
9. ____________	______	9. ____________	______
10. ____________	______	10. ____________	______
11. ____________	______	11. ____________	______
12. ____________	______	12. ____________	______
13. ____________	______	13. ____________	______
Woody Vines			
1. ____________	______		
2. ____________	______		
3. ____________	______		
4. ____________	______		
5. ____________	______		
6. ____________	______		
7. ____________	______		
8. ____________	______		
9. ____________	______		
10. ____________	______		
11. ____________	______		
12. ____________	______		
13. ____________	______		

Percent of dominant species that are OBL, FACW, and/or FAC __________

DATA FORM
INTERMEDIATE-LEVEL ONSITE DETERMINATION METHOD
VEGETATION UNIT SAMPLING PROCEDURE
(Herbs and Bryophytes)

Field Investigator(s): ____________________ Date: ____________
Project/Site: ____________________ State: ________ County: ____________
Applicant/Owner: ____________________ Vegetation Unit #/Name: ____________________
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Species	Indicator Status	Percent Areal Cover	Cover[1] Class	Midpoint[1] of Cover Class	Rank[2]
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					
31.					
32.					
33.					
34.					
35.					
36.					

Sum of Midpoints ____________
Dominance Threshold Number Equals 50% x Sum of Midpoints ____________

---

[1] Cover classes (midpoints): T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

[2] To determine the dominants, first rank the species by their midpoints. Then cumulatively sum the midpoints of the ranked species until 50% of the total for all species midpoints is immediately exceeded. All species contributing to that cumulative total (the dominance threshold number) *plus* any additional species having 20% of the total midpoint value should be considered dominants and marked with an asterisk.

DATA FORM
INTERMEDIATE-LEVEL ONSITE DETERMINATION METHOD
VEGETATION UNIT SAMPLING PROCEDURE
(Shrubs, Woody Vines and Saplings)

Field Investigator(s): ____________________ **Date:** ____________

Project/Site: ____________________ **State:** ________ **County:** ____________

Applicant/Owner: ____________ **Vegetation Unit #/Name:** ____________________

Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Shrub Species	Indicator Status	Percent Areal Cover	Cover[1] Class	Midpoint[1] of Cover Class	Rank[2]
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

Sum of Midpoints ____________

Dominance Threshold Number Equals 50% x Sum of Midpoints ____________

Woody Vine Species	Indicator Status	Percent Areal Cover	Cover[1] Class	Midpoint[1] of Cover Class	Rank[2]
1.					
2.					
3.					
4.					
5.					

Sum of Midpoints ____________

Dominance Threshold Number Equals 50% x Sum of Midpoints ____________

Sapling Species	Indicator Status	Percent Areal Cover	Cover[1] Class	Midpoint[1] of Cover Class	Rank[2]
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					

Sum of Midpoints ____________

Dominance Threshold Number Equals 50% x Sum of Midpoints ____________

---

[1] Cover classes (midpoints): T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

[2] To determine the dominants, first rank the species by their midpoints. Then cumulatively sum the midpoints of the ranked species until 50% of the total for all species midpoints is immediately exceeded. All species contributing to that cumulative total (the dominance threshold number) *plus* any additional species having 20% of the total midpoint value should be considered dominants and marked with an asterisk.

DATA FORM
INTERMEDIATE-LEVEL ONSITE DETERMINATION METHOD
VEGETATION UNIT SAMPLING PROCEDURE
(Trees)

Field Investigator(s): ____________________ Date: __________
Project/Site: ____________________ State: __________ County: __________
Applicant/Owner: ____________________ Vegetation Unit #/Name: ____________________
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Tree Species (Percent Cover Option)	Indicator Status	Percent Areal Cover	Cover[1] Class	Midpoint[1] of Cover Class	Rank[2]
1.					
2.					
3.					
4.					
5.					
6.					
7.					

Sum of Midpoints __________
Dominance Threshold Number Equals 50% x Sum of Midpoints __________

Tree Species (Basal Area Option)	Indicator Status	Tally 1 2 3 4 5 6 7 8	Total Trees	Basal[3] Area	Rank[2]
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

Basal Area Factor (e.g., Prism Used) __________

Total Basal Area of All Species Combined __________
Dominance Threshold Number Equals 50% of Total Basal Area __________

---

[1] Cover classes (midpoints): T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

[2] To determine the dominants, first rank the species by their midpoints (or basal area). Then cumulatively sum the midpoints (basal area) of the ranked species until 50% of the total for all species midpoints (or basal area) is immediately exceeded. All species contributing to that cumulative total (the dominance threshold number) *plus* any additional species having 20% of the total midpoint, or basal area, value should be considered dominants and marked with an asterisk.

[3] The basal area for a species (on a per acre basis) is determined by dividing the total number of individual trees tallied for all tally areas by the number of tallies and multiplying by the basal area factor.

DATA FORM [1]
INTERMEDIATE-LEVEL ONSITE DETERMINATION METHOD OR COMPREHENSIVE ONSITE DETERMINATION METHOD
(Soils and Hydrology)

Field Investigator(s): ______________________________ Date: ____________
Project/Site: ______________________ State: ________ County: ____________
Applicant/Owner: ____
Intermediate-level Onsite Determination Method _____
Comprehensive Onsite Determination Method _____
Transect # _____ Plot # _____
Vegetation Unit #/Name: ____________________ Sample # Within Veg. Unit: _____
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

SOILS

Series/phase: ________________________ Subgroup:[2] ____________________
Is the soil on the hydric soils list? Yes _____ No _____ Undetermined ____________
Is the soil a Histosol? Yes _____ No _____ Histic epipedon present? Yes _____ No _____
Is the soil: Mottled? Yes _____ No _____ Gleyed? Yes _____ No _____
Matrix Color: ______________ Mottle Colors: ____________________
Other hydric soil indicators: ________________________________
Comments: ____
____

HYDROLOGY

Is the ground surface inundated? Yes _____ No _____ Surface water depth: ____________
Is the soil saturated? Yes _____ No _____
Depth to free-standing water in pit/soil probe hole: ________________________
Mark other field indicators of surface inundation or soil saturation below:

___ Oxidized root zones
___ Water marks
___ Drift lines
___ Water-borne sediment deposits
___ Water-stained leaves
___ Surface scoured areas
___ Wetland drainage patterns
___ Morphological plant adaptations

Additional hydrologic indicators: ______________________________
____
____
____

Comments: ____
____
____
____
____
____

---

[1] This data form can be used for both the Vegetation Unit Sampling Procedure and the Quadrat Transect Sampling Procedure of the Intermediate-Level Onsite Determination Method, or the Quadrat Sampling Procedure of the Compehensive Onsite Determination Method. Indicate which method is used.

[2] Classification according to "Soil Taxonomy."

DATA FORM[1]
INTERMEDIATE-LEVEL ONSITE DETERMINATION METHOD OR COMPREHENSIVE ONSITE DETERMINATION METHOD
(Summary Sheet)

Field Investigator(s): ______________________________ **Date:** ______________
Project/Site: ______________________________ **State:** ________ **County:** ______________
Applicant/Owner: ______________________________
Intermediate-level Onsite Determination Method ______
Comprehensive Onsite Determination Method ______
Transect # ______ **Plot #** ______ **Vegetation Unit #/Name:** ______________________
***Note:* If a more detailed site description is necessary, use the back of data form or a field notebook.**

- -

Do normal environmental conditions exist at the plant community?
Yes ______ **No** ______ **(If no, explain on back)**
Has the vegetation, soils, and/or hydrology been significantly disturbed?
Yes ______ **No** ______ **(If yes, explain on back)**

Dominant Plant Species	Indicator Status	Stratum	Dominant Plant Species	Indicator Status	Stratum
1. ______	______	______	14. ______	______	______
2. ______	______	______	15. ______	______	______
3. ______	______	______	16. ______	______	______
4. ______	______	______	17. ______	______	______
5. ______	______	______	18. ______	______	______
6. ______	______	______	19. ______	______	______
7. ______	______	______	20. ______	______	______
8. ______	______	______	21. ______	______	______
9. ______	______	______	22. ______	______	______
10. ______	______	______	23. ______	______	______
11. ______	______	______	24. ______	______	______
12. ______	______	______	25. ______	______	______
13. ______	______	______	26. ______	______	______

- -

Percent of dominant species that are OBL, FACW and/or FAC ________

Is the hydrophytic vegetation criterion met? Yes ______ No ______

Is the hydric soil criterion met? Yes ______ No ______

Is the wetland hydrology criterion met? Yes ______ No ______

Is the vegetation unit or plot wetland? Yes ______ No ______

Rationale for jurisdictional decision: ____
____
____

---

[1] This data form can be used for either the Intermediate-level Onsite Determination Method or the Comprehensive Onsite Determination Method. Indicate which method is used.

DATA FORM
COMPREHENSIVE ONSITE DETERMINATION METHOD
QUADRAT SAMPLING PROCEDURE[1]
(Herbs and Bryophytes)

Field Investigator(s): ____________________ Date: __________
Project/Site: ____________________ State: ________ County: __________
Applicant/Owner: ____________________
Transect # _____ Plot # _____ Vegetation Unit #/Name: ____________________
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Species	Indicator Status	Quadrat Percent Areal Cover Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	$\bar{X}$	Rank[4]
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											
11.											
12.											
13.											
14.											
15.											
16.											

Total Cover ___[2]
Dominance Threshold Number Equals 50% x Total Cover ___[2]

Total of Averages ($\bar{X}$'s) ___[3]
Dominance Threshold Number Equals 50% x Total of Averages ($\bar{X}$'s) ___[3]

---

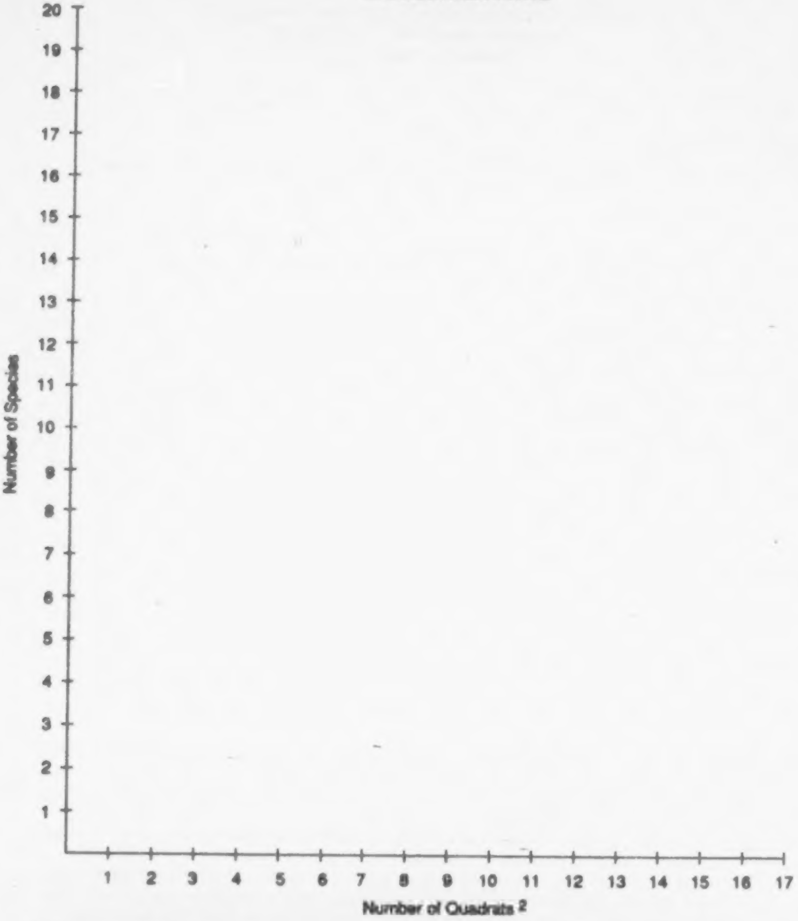
[1] This data form can be used for both the Plant Community Transect Sampling Approach and the Fixed Interval Transect Sampling Approach.

[2] These entries are only applicable to the Fixed Interval Transect Sampling Approach which uses only one quadrat per sampling point along a transect.

[3] These entries are only applicable to the Plant Community Transect Sampling Approach which uses multiple quadrats per sampling point along a transect.

[4] To determine the dominants, first rank the species by their cover (or mean cover). Then cumulatively sum the cover (mean cover) of the ranked species until 50% of the total for all species cover (mean cover) is immediately exceeded. All species contributing to that cumulative total (the dominance threshold number) *plus* additional species having 20% of the total cover (mean cover) value should be considered dominants and marked with an asterisk.

SPECIES-AREA CURVE [1]



---

[1] Plot the cumulative number of species against the quadrats (e.g., if quadrat #1 has 3 species and quadrat #2 has any, all, or none of those species but has 2 new species, then 5 cumulative species should be plotted against quadrat #2). The number of quadrats sufficient to adequately survey the understory will corresdpond to the point on the curve where it first levels off and remains essentially level.

[2] Specify size of sample quadrat: ____________________

DATA FORM
COMPREHENSIVE ONSITE DETERMINATION METHOD
QUADRAT SAMPLING PROCEDURE
(Shrubs and Woody Vines)

Field Investigator(s): ____________ Date: ____________
Project/Site: ____________ State: ________ County: ____________
Applicant/Owner: ____________
Transect # _____ Plot # _____ Vegetation Unit #/Name: ____________
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Shrub Species	Indicator Status	Percent Areal Cover	Cover[1] Class	Midpoint[1] of Cover Class	Rank[2]
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

Sum of Midpoints ____________
Dominance Threshold Number Equals 50% x Sum of Midpoints ____________

Woody Vine Species	Indicator Status	Percent Areal Cover	Cover[1] Class	Midpoint[1] of Cover Class	Rank[2]
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

Sum of Midpoints ____________
Dominance Threshold Number Equals 50% x Sum of Midpoints ____________

---

[1] Cover classes (midpoints): T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

[2] To determine the dominants, first rank the species by their midpoints. Then cumulatively sum the midpoints of the ranked species until 50% of the total for all species midpoints is immediately exceeded. All species contributing to that cumulative total (the dominance threshold number) *plus* any additional species having 20% of the total midpoint value should be considered dominants and marked with an asterisk.

DATA FORM
COMPREHENSIVE ONSITE DETERMINATION METHOD
QUADRAT SAMPLING PROCEDURE
(Saplings & Trees)

Field Investigator(s): ____________________ Date: __________
Project/Site: ____________________ State: ______ County: __________
Applicant/Owner: ____________________
Transect # _____ Plot # _____ Vegetation Unit #/Name: ____________________
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Sapling Species	Indicator Status	Percent Areal Cover	Cover[1] Class	Midpoint[1] of Cover Class	Rank[2]
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

Sum of Midpoints __________
Dominance Threshold Number Equals 50% x Sum of Midpoints __________

Individual Tree Species	Indicator Status	DBH (inches)	Basal Area (BA) Per Tree (sq ft)	BA Per Species (sq ft)	Rank[2]
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					

Total Basal Area of All Species Combined __________
Dominance Threshold Number Equals 50% x Total Basal Area __________

---

[1] Cover classes (midpoints): T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

[2] To determine the dominants, first rank the species by their midpoints. Then cumulatively sum the midpoints of the ranked species until 50% of the total for all species midpoints is immediately exceeded. All species contributing to that cumulative total (the dominance threshold number) *plus* any additional species having 20% of the total midpoint value should be considered dominants and marked with an asterisk.

PREVALENCE INDEX WORKSHEET

LOCATION ____________________ DATE __________ EVALUATOR ______________

HYDRIC UNIT NAME ______________________________ TRANSECT NO. __________

		Frequency of Occurrence of Identified Plants with Known Indicator Status				
Plant Species	Frequency of Occurrence Total for Each Species	F_o Obligate	F_{fw} Facult. Wet.	F_f Facult.	F_{fu} Facult. Upland	F_u Upland
Total occurrence for all plant species						
Total occurrences ID'd with known indicator status						
E.I. value		1	2	3	4	5

$$\frac{\text{Total occurrences identified with known indicator status}}{\text{Total occurrence for all plant species}} = \text{\% valid occurrences}$$

$$PI_i = \frac{(1F_o) + (2F_{fw}) + (3F_f) + (4F_{fu}) + (5F_u)}{(F_o + F_{fw} + F_f + F_{fu} + F_u)}$$

Appendix C
Sample Calculation for Herb Stratum Dominants

DATA FORM
COMPREHENSIVE ONSITE DETERMINATION METHOD
QUADRAT SAMPLING PROCEDURE[1]
(Herbs and Bryophytes)

Field Investigator(s): Bob Barber and Bill Sipple Date: 7/29/87
Project/Site: Weise Slough State: Iowa County: Muscatine
Applicant/Owner: State of Iowa
Transect # 1 Plot # 2 Vegetation Unit #/Name: #1 / Marsh
Note: If a more detailed site description is necessary, use the back of data form or a field notebook.

Species	Indicator Status	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	$\bar{X}$	Rank[4]
* 1. Leersia oryzoides	OBL	95	99	99	100	<1	30	20	20	57.9	1
2. Echinochloa muricata			2	5	5	15		2	2	3.88	4
3. Lemna Sp.		70	20		5					11.88	2
4. UI Seedling (herb)		<1		<1	<1	<1	15	<1		1.88	6
5. Bidens sp.			1	2		1	10	10	2	3.25	5
6. Sagittaria latifolia			<1	<1						–	7
7. Rumex verticillatus						80				10	3
8.											
9.											
10.											
11.											
12.											
13.											
14.											
15.											
16.											

Total Cover ___[2]
Dominance Threshold Number Equals 50% x Total Cover ___[2]

Total of Averages ($\bar{X}$'s) 88.8[3]
Dominance Threshold Number Equals 50% x Total of Averages ($\bar{X}$'s) 44.4[3]

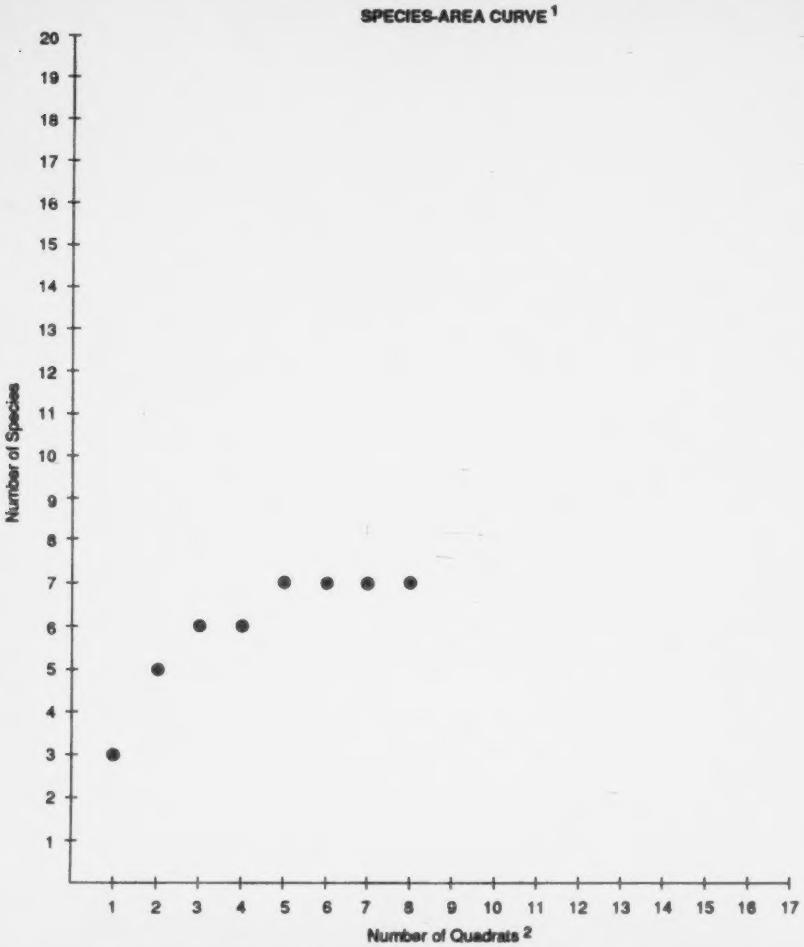
---

[1] This data form can be used for both the Plant Community Transect Sampling Approach and the Fixed Interval Transect Sampling Approach.

[2] These entries are only applicable to the Fixed Interval Transect Sampling Approach which uses only one quadrat per sampling point along a transect.

[3] These entries are only applicable to the Plant Community Transect Sampling Approach which uses multiple quadrats per sampling point along a transect.

[4] To determine the dominants, first rank the species by their cover (or mean cover). Then cumulatively sum the cover (mean cover) of the ranked species until 50% of the total for all species cover (mean cover) is immediately exceeded. All species contributing to that cumulative total (the dominance threshold number) *plus* additional species having 20% of the total cover (mean cover) value should be considered dominants and marked with an asterisk.



---

[1] Plot the cumulative number of species against the quadrats (e.g., if quadrat #1 has 3 species and quadrat #2 has any, all, or none of those species but has 2 new species, then 5 cumulative species should be plotted against quadrat #2). The number of quadrats sufficient to adequately survey the understory will corresdpond to the point on the curve where it first levels off and remains essentially level.

[2] Specify size of sample quadrat: 0.1 m^2

Appendix D

Sample Problem for Application of Point Intercept Sampling Method

Sample problem for application of point sampling method. Example follows this sample worksheet.

PREVALENCE INDEX WORKSHEET

LOCATION Montgomery Co., MD Farm 2164, Tract 742 DATE 8/4/88 EVALUATOR Anne Lynn

HYDRIC UNIT NAME Bibb TRANSECT NO. 1

Frequency of Occurrence of Identified Plants with Known Indicator Status

Plant Species	Frequency of Occurrence Total for Each Species	F_o Obligate	F_{fw} Facult. Wet.	F_f Facult.	F_{fu} Facult. Upland	F_u Upland
Lirodendron Tulipifera	13				13	
Platanus occidentalis	20		20			
Acer rubrum	8			8		
Hedera halix	1					
Alnus serrulata	2	2				
Podophyllum peltatum	3					
Liquidambar styraciflua	2			2		
Galium asperllum	2	2				
Lindera benzoin	3		3			
Lonicera japonica	5			5		
Toxidendron radicans	5			5		
Viburnum recognitum	2		2			
Arisaema Triphyllum	4		4			
Carpinus caroliniana	2			2		
Ilex opaca	12				12	
Thelypteris noveboracensis	2			2		
Total occurrence for all plant species	86					
Total occurrences ID'd with known indicator status	82	4	29	24	25	
E.I. value		1	2	3	4	5

$$\frac{\text{Total occurrences identified with known indicator status}}{\text{Total occurrence for all plant species}} = \text{\% valid occurrences} = 100 \times \frac{82}{86} = 95\%$$

$$PI_i = \frac{(1F_o) + (2F_{fw}) + (3F_f) + (4F_{fu}) + (5F_u)}{(F_o + F_{fw} + F_f + F_{fu} + F_u)}$$

COMPUTATIONS

1. Computation of prevalence index (PI) for transect #1:

$$PI_i = \frac{(1F_o) + (2F_{fw}) + (3F_f) + (4F_{fu}) + (5F_u)}{(F_o + F_{fw} + F_f + F_{fu} + F_u)}$$

$$PI_1 = \frac{(1x4) + (2x29) + (3x24) + (4x25)}{4 + 29 + 24 + 25} = \frac{234}{82} = 2.85$$

where:

PI_i = Prevalence index for transect i
F_o = Frequence of occurrence of obligate wetland species
F_{fw} = Frequency of occurrence of facultative wetland species
F_f = Frequency of occurrence of facultative species
F_{fu} = Frequency of occurrence of facultative upland species
F_u = Frequency of occurrence of upland species

2. Computation of mean prevalence index (PI_M) for three transects:

$$PI_M = \frac{PI_T}{N}$$

where:

PI_M = Mean prevalence index for transects
PI_T = Sum of prevalence index values for all transects
N = Total number of transects

For example: PI for Transect 1 = 2.85
PI for Transect 2 = 3.16
PI for Transect 3 = 2.93

$$PI_M = \frac{2.85 + 3.16 + 2.93}{3} = \frac{8.94}{3} = 2.98$$

3. **Computation of standard deviation (s) for prevalence index (PI):**

$$s = \sqrt{\frac{(PI_1 - PI_M)^2 + (PI_2 - PI_M)^2 + (PI_3 - PI_M)^2}{N - 1}}$$

For example:

Transect	PI_i	PI_M	$(PI_i - PI_M)$	$(PI_i - PI_M)^2$
1	2.85	2.98	−0.13	0.0169
2	3.16	2.98	0.18	0.0324
3	2.93	2.98	−0.05	0.0025
				0.0518

$$s = \sqrt{\frac{0.0518}{3 - 1}} = \sqrt{\frac{0.0518}{2}} = \sqrt{0.0259} = 0.161$$

4. Computation of standard error ($s\bar{x}$) of the prevalence index:

$$s\bar{x} = \frac{s}{\sqrt{N}} = \frac{0.161}{\sqrt{3}} = \frac{0.161}{1.73} = 0.093$$

Since 0.093 does not exceed 0.20, no additional transects are needed.

5. Record mean prevalence index value.

$PI_M = 2.98$

Since 2.98 is less than 3.0, the area has hydrophytic vegetation. If the wetland hydrology criterion is met, then the area is a wetland.

*U.S. Government Printing Office: 1989-244-108/00699

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January 28, 1991

VIA FAX

Congressman Robert E. Andrews
House of Representatives
1005 Longworth House Office Building
Washington, D.C. 20515

Re: Impact of Wetlands Laws on Small Business

Dear Congressman Andrews:

I understand that the Committee on Small Business is conducting a hearing on the impact of wetlands laws on small businesses. As an attorney practicing in the area of environmental law in New Jersey for the last fifteen years (including seven years at a Deputy Attorney General in Trenton representing NJDEP), I have a great deal of experience with both Federal and State wetlands laws. What follows is a capsule summary of what I perceive to be the major problems in this area. This summary will necessarily be brief; I could go on at much greater length if time permitted.

Some of the major problems in the area of wetlands regulations include the following:

1. What is a "wetland"? The definition of "wetlands" is virtually identical in both Federal and State law. However, it is rare for Federal and State agencies to interpret the definition consistently. It is also quite common for staff members within the same agency to interpret the definition inconsistently. The result is havoc for the landowner.

When New Jersey became one of the first states to regulate tidal wetlands in 1970 (New Jersey Coastal Wetland Act, NJSA 13:9A-1 et seq.), the Legislature set forth a definition of wetlands, directed DEP to delineate the regulated wetlands on maps, conduct public hearings on the delineations, and then adopt the maps and file them with the appropriate county clerks. These maps put everyone on notice as to what would henceforth be regulated as wetlands and what would not be. The law specified that DEP could engage in no regulation until the maps were adopted.

The map requirement is still the law with respect to tide-flowed wetlands. However, freshwater wetlands were not required to be mapped in advance by either State or Federal laws. As a result, wetlands areas are delineated and mapped only on a "case by case" basis, usually as one of the first steps in proposed development of the land. It is at this delineation phase that the landowner usually learns, for the first time, that his property contains wetlands. Wetlands delineations vary according to who performs them, and which individual within which agency reviews them. I have had numerous instances in which the U. S. Army Corps of Engineers approved a wetland delineation, but have been told by NJDEP that there are far more extensive wetland areas on the property. This results in considerable time and expense, as it is up to landowner to negotiate with these two agencies in order to resolve the situation. We would be far better off if the government were required to delineate and map wetlands areas in advance, prior to regulating them.

2. Wetland regulators take a very expensive approach to wetland delineation. As a result, they err on the side of including an area within wetlands. Delineation of wet- lands is hardly a scientific process; rather, it calls for exercise of a great deal of judgment, and the staff people at the wetland agencies who render such judgments usually always decide in favor of calling an area a wetland. Once an area is delineated as a wetlands, of course, it becomes virtually undevelopable. Even though "wetland permits" are available, it is usually almost impossible to obtain one, except for certain nationwide general permits.

3. Neither State nor Federal regulations recognize de minimus wetlands which, although they may meet the technical definition of wetlands, perform almost none of the functions (flood control, serving as a filter for pollutants, habitat for threatened or endangered species) which wetlands usually exhibit. Nonetheless, such areas are regulated as wetlands just as strictly as extensive areas of pristine wetlands which ought to be regulated. For example, under the New Jersey Freshwater Wetlands Protection Act, even man-made swales (ditches dug years ago for drainage purposes) are regulated, and thus cannot be filled or otherwise developed, because even though they are not true wetlands, they have, over the years, taken on certain wetland characteristics which meet the definition. Thus, virtually every ditch on the side of a highway in New Jersey is classified as wetlands by DEP. By virtue of this classification,

of course, such ditches cannot be filled or otherwise developed. Moreover, because under New Jersey law, buffers to wetlands of 50 to 150 feet are required, the designation of a small ditch as a wetland in effect means that the area surrounding that ditch (from 50 to 150 feet distant) can also not be developed. Such classifications reduce a landowner's flexibility, and also result in needless fees paid to environmental consultants and engineers (not to mention attorneys) in order to try to resolve the design problems which wetlands and wetland buffer classifications cause.

4. Processing of wetland applications by Federal and State agencies is a major problem. As previously mentioned, staff members within such agencies often render inconsistent determinations. Moreover, State agencies such as NJDEP often disagree with the U. S. Army Corps of Engineers in terms of wetland delineations. NJDEP is far more strict in its interpretations than is the U. S. Army Corps of Engineers.

Another major source of difficulty is the unduly long period of time it takes for regulators to process and make decisions on applications. Although under both Federal and New Jersey law, an application is supposed to be acted upon within ninety days, this deadline is never adhered to. The reason is twofold: a) The time within which to make a decision only begins to run once the application is deemed "complete." Agencies routinely request additional (and often irrelevant) information from an applicant simply to buy additional time to render a decision; b) There is no penalty for failing to meet the ninety day deadline. Under New Jersey law, NJDEP is required to render a number of other permits within ninety days, and if the deadline is missed, the permit is "deemed approved". There is no such provision for wetlands permits on either the State or Federal level. Perhaps imposition of such a requirement would cause the regulators to act in a more timely and efficient manner.

5. If an applicant is fortunate enough to obtain a wetlands permit, the permit will more often than not contain numerous burdensome conditions. Perhaps the most popular condition is one requiring the applicant to deed restrict the wetlands, wetland buffer, or other portions of his property so that in effect it can never be utilized for any viable purpose. Although there is no legal authority for Federal or State agencies to compel such deed restrictions, they do it anyway and get away with it because an applicant is not often willing to spend money for legal fees to fight such a condition. Also, applicants are afraid that if they fight a condition, they may jeopardize the entire permit. It is unnecessary to require property to be deed restricted under these circumstances. Again,

Congressman Robert E. Andrews
January 28, 1991
Page 4

if a property is deed restricted, it may not be used for any purpose in perpetuity, even if at some future date wetlands laws and regulations are either repealed or substantially loosened. Requiring deed restrictions under these circumstances is simply overkill on the part of the regulators.

These are just a few of the most obvious impacts of wetlands regulations. I could go on at much greater length. I hope that this is helpful for your purposes, and that you will keep me advised as to the results of the Committee hearings. If you need any further information, or would like to discuss the area of wetland regulations further, please give me a call.

Very truly yours,

Richard M. Hluchan

RMH:ceb

LINDSAY THOMAS
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RECEIVED
[illegible] 1991
Committee on Small Business

February 20, 1991

Honorable John LaFalce
Chairman
Committee On Small Business
2361 Rayburn HOB
Washington, D. C. 20515

Dear Mr. Chairman:

One of my constituents, Mr. Vernon Martin, has contacted me his interest in presenting testimony to the Committee on Small Business regarding wetlands. I have enclosed his correspondence for your review.

I would very much appreciate your placing his comments in the hearing record.

Thank you for your kind attention to this request.

Sincerely,

Lindsay
Lindsay Thomas
Member of Congress

Coastal Georgia
Regional Development Center

FEB 1 [illegible]

February 14, 1991

Honorable John LaFalce
Congressman from New York
Chairman, House Small Business Committee
2367 Rayburn House Office Building
Washington, D. C. 20515

Dear Mr. Chairman:

Recently, I had a lengthy discussion with Lindsay Thomas, our congressman, his testifying before your House Small Business Committee regarding the wetlands issue. You probably do not remember me, but I met you on different occasions as an active member of the board of the National Association of Development Companies (NADCO). We operate a very successful certified development company (CDC) in coastal Georgia packaging SBA 504 loans, and also have the distinction of operating the nation's largest rural revolving development fund.

I am extremely interested in some inquiry you initiated about this wetlands issue, because this probably has been the most devastating thing that has happened to our region of Georgia, which encompasses the entire coast, in more than 20 years that I have worked here. As a matter of information, I am attaching a copy of a letter that our chairman wrote to Chief of Staff Sununu, a copy of a position paper that I have asked that NADCO and several other national organizations develop, and a copy of an outline that documents some of the economic damage that has occurred in coastal Georgia as a result of this manual's implementation.

Recently, key representatives of our wetlands task force and I met with White House representatives and top officials of EPA, NOAA, the Department of Commerce, and the Corps of Engineers, about our concerns of the existing manual, and questions about the second draft of the manual that we understand will be published sometime toward the end of next month. Frankly, we were not very encouraged by what we heard and by most of our discussions with the agency representatives. We do, however, feel that the administration at least understands the problem, as represented by some of the White House contacts we met with. They also understand that while we are interested in seeing the

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manual revised in a more acceptable fashion, we are not interested in seeing true wetlands destroyed. We do believe that the manual has gone far beyond what was expected by congress in classifying land that would not normally be technically classified as a wetland. This has subsequently raised the jurisdictional wetland percentage of our coast from approximately 30% pre-manual, to more than 80% under the guidelines of the existing manual. As you can imagine, that is unacceptable, and is something that is continuing to have a devastating affect on our economy and certainly the small business community.

I would like to request that our chairman be allowed to testify in front of your committee at any hearings you may have in the future. Probably, the coastal area of Georgia has been more drastically affected than any other part of the country, and I am positive that we could provide some very valuable, informative, and useful information to you and members of your committee.

Your interest in this most important matter is appreciated, and I look forward to hearing from you or a member of your staff.

Sincerely,

Vernon D. Martin, AICP
Executive Director

VDM/mka

Enclosures

c: Congressman Lindsay Thomas
Ms. Kathy Grimes, NADCO

Lindsay -

Would you please assist us by contacting Chairman LaFalce and seeing whether or not there is any opportunity for our chairman, Danny Norman, to be asked to testify before his committee.

Thanks.

Vernon

MAR 05 1991

CLYDE C. HOLLOWAY
8TH DISTRICT, LOUISIANA

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COMMITTEE ON SMALL BUSINESS

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March 4, 1991

JT ok
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The Honorable John J. LaFalce
Chairman
Committee on Small Business
2361 Rayburn House Office Building
Washington, D.C. 20515

Dear Mr. Chairman:

I respectfully request that the attached material be inserted into and made part of the permanent record of your Jan. 30, 1991 hearing of the House Committee on Small Business.

The material was submitted to me by Mr. Stephen H. Garnett, Vice President of Public Affairs for the James River Corporation, which I am privileged to represent as a Member of Congress.

In closing, I want to thank you for the courtesy and kindnesses which you extended to me during my tenure on your distinguished committee.

Thank you in advance for your consideration of this request.

With best regards, I am

Sincerely,

Clyde

CLYDE C. HOLLOWAY
Member of Congress

CCH:ajb

Enclosure

JAMES RIVER CORPORATION
P.O. Box 2218, Richmond, VA 23217 (804) 644-5411

STEPHEN H. GARNETT
Vice President
Public Affairs
(804) 649-4362

January 31, 1991

The National mandate to preserve wetlands is a much-needed and long-overdue measure, but its development has gone awry in the bureaucratic process. The staffs of the four author agencies have sought to include every conceivable circumstance. There was no opportunity offered for public review and comment. As a result, as currently written, the manual delineates as wetlands, lands that exhibit few, if any, characteristics of true, functioning wetland ecosystems, such as swamps, bogs and marshes. Indeed, it defines lands where the water table reaches to within 12 to 18 inches below the ground surface for just seven consecutive days! This definition expands the "reach" of the wetlands act to possibly millions of acres of U.S. forest lands which are currently managed for commercial timber crops and which harbor no surface water. We do not believe that this was the intent of Congress or President Bush.

Please modify the Manual to use a wetlands identification criterion based upon water at the surface. An inundation criterion would certainly be an understandable indicator of true wetland functions and would be consistent with recent regulatory guidance issued by the Army Corps of Engineers on "prior converted wetlands."

There is also a problem with growing season definitions based upon soil temperatures. The Manual must be rewritten to include plant hardiness zones based upon spring frost and fall frost dates.

We believe that these recommendations will provide for the delineation and protection of our true wetland ecosystems and prevent the Fish & Wildlife Service, the Corps of Engineers, the Environmental Protection Agency and the Soil Conservation Service from dissipating their energies, and ours, on millions of acres of lands exhibiting questionable wetlands characteristics.

Sincerely yours,

Stephen H. Garnett
Vice President, Public Affairs

JAMES H. BILBRAY
1st District, Nevada

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COMMITTEE ON
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Congress of the United States
House of Representatives
Washington, DC 20515

STATEMENT OF THE HONORABLE JAMES H. BILBRAY

FEBRUARY 6, 1991
COMMITTEE ON SMALL BUSINESS

In this second of a series of hearings on the effects of wetlands protection regulations on the small business community, I am eager to learn from the testimony of the business and environmental community today. I expect that in the forthcoming testimony, we shall be better able to examine the problems in the administration of wetlands policy.

In our latest state election, one of the referendum questions on the ballot asked the electorate if we should use state bonds to fund parks and wildlife preserves. The measure passed by a great majority. It had been 13 years since the last parks and wildlife bond issue had been passed in Nevada. And in that time our population has nearly doubled. Since 1900, we have lost 85% of our wetlands. The desert wetlands are particularly important; they provide an important habitat for migratory species. The Clark County Board of Commissioners is allocating $3.3 million from the bond issue for wetlands restoration and preservation.

There does not appear to be controversy in Nevada concerning wetlands. The 'no net loss policy' has been rather successfully implemented in Nevada. Local businesses are supportive of wetlands as it enhances their projects. I am aware of development projects in southern Nevada where as long as mitigation plans are established to restore wetlands elsewhere, the project proceeds. Usually it is a matter of negotiating adequate mitigation. There are some overzealous people in the bureaucracy who can slow things down, but they have not killed any projects.

There are flaws in the use of the manual. Admittedly, in the field there are some discrepancies in the interpretation of wetlands by the various agencies, but I believe that the basic legislation is important and provides needed protection for a limited resource valued both for its habitant and aesthetic potential.

For the record, I would like to submit a question to the Corps of Engineers and FIMA. The wetlands classified as intermittent wetlands present the greatest dilemma for the small business community. This land appears to be usable, generic land a great percentage of the time. It only exhibits wetlands characteristics at certain times of the year. There are laws that require banks and savings and loans to elevate buildings on vulnerable sites and even direct development out of flood plains. FIMA has mapped all of the 100 year flood plains. In terms of flood disaster assistance, I would be interested in acquiring the statistics of what the taxpayer eventually ends up paying?

Since the 1940s, billions of dollars have been spent on flood control projects. We have not had great success in the reduction of flood damages. Despite the development of flood control measures, such as beachheads, annual flood damages remain a steady statistic. We as a committee may need to think about these vulnerable areas in terms of the cost to the government and more directly the cost to the taxpayer. The average taxpayer ends up paying for many of the mistakes made in the development of wetlands.

Statement of
The Honorable Richard Ray

Before the Committee on Small Business
on Wetlands Policy

February 6, 1991

Mr. Chairman, I appreciate your holding this hearing to focus attention on our national wetlands policy.

I have heard from a number of constituents in the Third District of Georgia who are concerned about the impact of our national wetlands policy. I am hopeful that this hearing will draw attention to the problems we are having with this policy, and help us arrive at some possible solutions.

Dealing with wetlands policy is an act of balancing. As I understand it, there are a number of different agencies involved in overseeing wetlands. The Department of Agriculture, the Army Corps of Engineers, the Environmental Protection Agency, the National Fish and Wildlife Service, and numerous public interest groups are all involved in the regulatory process. The main problem seems to be that these agencies must not only work together, but they must somehow piece together a comprehensive policy. With so many individuals involved, and so many different rules and regulations to follow, it is easy to understand the trouble they have been having acting in a timely, efficient manner.

If we expect these individuals to preserve our important wetland resources, and protect the interests of our farmers, businessmen, and citizens who must earn a living off the land, we have got to improve the regulatory system. It will not be easy, but it can be done. The federal government and these agencies must focus their attention on several areas.

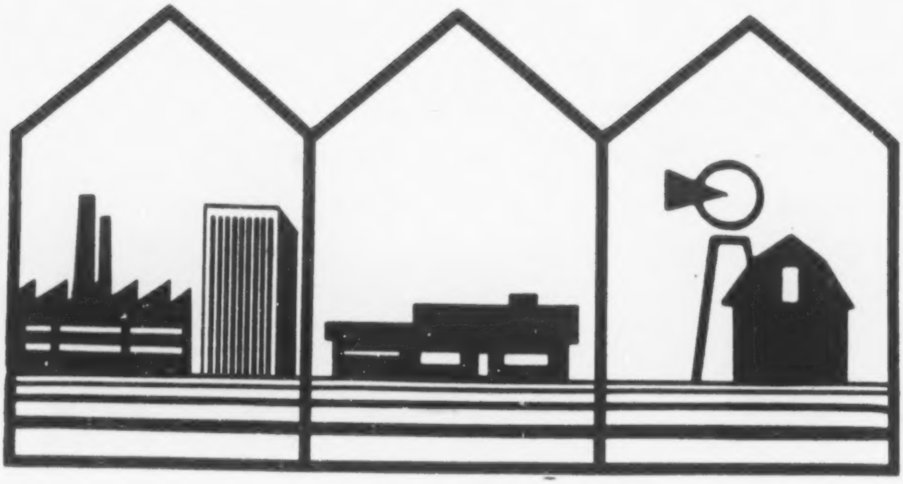
First, we need to be sensitive to the many different types of wetlands, and we need a definition of wetlands which reflects this understanding. Certain wetlands are particularly well suited to removing pollution from our waters, recharging aquifers, reducing coastal erosion, minimizing flooding, or creating critical breeding and nesting habitats for a wide array of fish and waterfowl. However, we must also realize that not all wetlands provide the same degree of ecological benefits. I believe regulations should reflect these differences in as clear and understandable terms as possible.

Second, there is a real problem with the time it takes to go through the permit application process. Because of the great delays that can occur, what seems to be happening is many individuals are turning to outside consultants to perform wetlands delineations. Therefore, I believe the staffing needs of the agencies involved must be given attention. If we are to demand fair and comprehensive evaluations of individual permit applications, we must make certain that the agencies responsible for this review are prepared to deal efficiently with their workloads. In this regard, I am pleased that the Army has directed the Corps to increase its regulatory staff by 25% by the end of 1993 within its personnel ceiling. I am hopeful that this will improve the performance of all aspects of the Corps' evaluation process, especially field delineations.

Third, I believe the Federal Manual for Identifying and Delineating Federal Jurisdictional Wetlands should be evaluated. Critics have indicated that there is little flexibility in the new regulatory requirements, and that the manual not only broadens the jurisdictional responsibilities of the Corps, but was adopted without the benefit of formal rulemaking procedures as required by the Administrative Procedures Act. I commend the Federal Interagency Wetlands Delineation Committee for initiating a review of this manual, and for including public participation in this process. I hope that revisions to this manual will reflect the concerns raised by citizens during this review.

There are inherent difficulties in the evaluation, regulation, and enforcement of any national policy, and our wetlands program has encountered most of them. In order to improve the wetlands program we must clarify our objectives without becoming inflexible, and incorporate the views of many individuals without further confusing this issue. Most importantly, we must preserve and protect our environment without forgetting the very real needs of our citizens to grow and prosper themselves.

Mr. Chairman, in closing, I would like to thank you for your leadership on this issue, and for calling this timely hearing on wetlands. I look forward to an informative hearing.



Statement of the

NATIONAL ASSOCIATION OF REALTORS®

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TESTIMONY OF
PATRICIA CAMPBELL-WHITE
REPRESENTING THE NATIONAL ASSOCIATION OF REALTORS
BEFORE THE HOUSE COMMITTEE ON SMALL BUSINESS
ON THE EFFECT OF FEDERAL WETLANDS LAWS AND REGULATIONS
ON AMERICA'S SMALL BUSINESS COMMUNITY
FEBRUARY 6, 1991

TESTIMONY OF
PATRICIA CAMPBELL-WHITE
REPRESENTING THE NATIONAL ASSOCIATION OF REALTORS®
BEFORE THE HOUSE COMMITTEE ON SMALL BUSINESS
ON THE EFFECT OF FEDERAL WETLANDS LAWS AND REGULATIONS
ON AMERICA'S SMALL BUSINESS COMMUNITY
FEBRUARY 6, 1991

INTRODUCTION

Thank you, Mr. Chairman, for the opportunity to present my comments, on behalf of The NATIONAL ASSOCIATION OF REALTORS®, before your Committee this morning on the detrimental effect federal wetlands policies have had on our nation's small businesses. The NATIONAL ASSOCIATION OF REALTORS® is comprised of more than 800,000 members involved in all aspects of the real estate industry. Of that number at least 85% are considered "small businesses," that is they employ twenty or fewer full-time associates.

We thank you for holding this series of hearings so early in the 102nd Congress, and for focusing attention on the fact that real people are being hurt by existing wetlands' laws and regulations. It is easy to forget that when federal policy is decided on high, it eventually reaches down to affect the everyday operation of millions of American businesses. However, as you showed in your dogged fight against another case of regulatory overkill, the Section 89 IRS rules, federal policy can sometimes be overturned by persistence and a common sense approach.

Our concerns with federal wetlands policies can be expressed in two simple concepts: uncertainty and protection of private property rights. I will try to explain for you what each of these mean for our members.

"UNCERTAINTY"

In 1989, when the representatives of the Army Corps of Engineers, Environmental Protection Agency (EPA), Soil and Conservation Service, and Fish and Wildlife Service met to develop the new Federal Manual for Identifying and Delineating Jurisdictional Wetlands, their goal was to bring some consistency to the definition and regulation of wetlands. Unfortunately, as time has shown, their work has created far more uncertainty as to just what is a "wetland" than existed previously.

In the business world, especially for small businesses, "uncertainty" is a four-letter word. Since the Chairman and many members of this Committee also serve on the Banking Committee, I don't need to tell you that bankers don't like uncertainties when trying to decide whether to lend money to someone wishing to purchase property or to borrow money to develop property they already own. "Uncertainty" leads lenders to SAY NO or to charge higher interest on purchases or projects they feel are speculative. This is especially true these days in light of the downturn in the real estate market and the lingering cloud of the savings-and-loan crisis.

Access to capital for land and home acquisition and development of new homes is the life blood of our industry. At a time when we are already facing other economic and regulatory barriers to affordable housing in our nation, we certainly do not need the unnecessary burdens caused by federal wetlands regulations added to the mix.

"Uncertainty" also means hiring an expensive environmental consultant to come out and do for you what the federal policy was supposed to do, tell you whether you property is a wetland within the confusing and inflexible guidelines. Consultants' costs are eventually passed on to the consumer resulting in higher housing prices.

We believe that a standardized definition should be established to eliminate the existing confusion as to what is a wetland. It is our interpretation that some governmental entities have limited the definition to one type of soil or vegetation, thus rendering an area a wetland without having full benefit of a standardized definition. It is imperative that a clear-cut definition be developed, not only to relieve the regulatory confusion, but also because it would allow areas that are truly wetlands to be properly delineated as such. And we are adamant that should a new definition be developed, it be following extensive public input, either through legislative hearings or formal rulemaking. Perhaps if the current regulations had been developed with public participation, rather than by four federal bureaucracies behind closed doors, we would not be having this hearing today.

We disagree with the government policy that "all wetlands are created equal." NATIONAL ASSOCIATION OF REALTORS® hopes that any new federal policy will provide for a classification system for wetlands. We agree that the most environmentally sensitive and useful wetlands should be protected because they serve vital ecological functions, such as flood control, habitat spawning areas. . . and the like. However, the current federal policy lacks the flexibility to differentiate between vital ecological wetlands and lands which serve a marginal environmental purpose.

We certainly hope that any legislative solution which Congress formulates will include some form of prioritization or ranking so that we can protect the most of our wetlands, while allowing private landowners of less ecologically sensitive properties the right to develop lands as they see fit, within local planning and zoning parameters.

Another "uncertainty" in the current permitting process is delays caused by overlapping jurisdictional and bureaucratic redundancy in the system among federal, state and local agencies. This bureaucratic quagmire of complex, confusing, and often differing federal and state regulations either delays development, or in some cases, serves as a deterrent for property owners to utilize their lands at all. In some areas of the country, this reluctance to develop lands that are potentially classified as wetlands has made property in non-wetland areas all the more valuable. This has artificially driven up the price of these lands and skewed property values in the affected areas.

NAR feels that governmental entities involved in the permitting process should be restricted as to the length of time it takes to make a determination if the land is indeed a wetland and/or to issue a permit. Decision delays not only affect funding availability, but also add to the price of the housing, which is ultimately passed on to the American homebuyer.

In one case, one of our REALTOR® members has been waiting over eight years for her commission check for her involvement in a $1.9 million sale of 15 acres for proposed marina development. And in the famous Loveladies Harbor "takings" case, the plaintiff there has been involved in bureaucratic wrangling and litigation for fifteen years. And his case isn't finished yet - - the federal government has until mid-February to decide whether to file an appeal!

In an effort to enhance the coordination between regulatory agencies and governments, we ask you to consider recommending a united, clearly defined, permitting process. It is far more suitable for a single government entity to administer the program, thus lessening the potential impact on business operations and housing affordability. We encourage a concept, which can be likened to "One Stop Shopping", which would allow one agency to administer the program and could conceivably consist of a check list or booklet from the approving governmental authority outlining what permits are necessary, what the purposes are, who does the processing, what the processing time is, and the estimated fee schedule.

"PRIVATE PROPERTY RIGHTS"

Over seventy percent of our nation's wetlands are owned by private citizens. Therefore, our concerns extend beyond the immediate interests of the real estate industry and encompass the larger issue of protecting private property rights. The NATIONAL ASSOCIATION OF REALTORS® strongly believes in the fundamental right of all private property owners, working through local government, to determine the highest and best use of their land. Every person should have the right to acquire and use real property with the confidence and certainty that the value of their property will not be unduly diminished or jeopardized by governmental action at any level without the owner's express consent.

The NATIONAL ASSOCIATION OF REALTORS® has worked for years to encourage a balanced approach to environmental protection, one that incorporates conservation with economic preservation. Efforts to control pollution and to protect natural resources must be balanced, and we oppose those aspects of environmental and natural resource legislation that amount to uncompensated condemnation of private property through governmental actions. It is essential that the rights of private property owners be fully recognized in local, state, and federal programs and laws.

However, in establishing land use laws and regulations for the purpose of protecting these resources, the cost of the benefits to the general public should be borne by the general public. Therefore, we believe that financial incentives should be developed for the protection of wetlands. This would relieve the builders from paying for environmental assessments the cost of which is passed on to homebuyers.

The NATIONAL ASSOCIATION OF REALTORS® also believes that governments should not, through the permitting process, be allowed to engage in activity which results in a "taking" of property without compensating the affected property owner. As is evident from the recent Loveladies Harbor Inc. v. the United States case, Army Corps of Engineers' denial of a permit to fill an owner's property may result in a "taking", and the court awarded just compensation as mandated by the Fifth Amendment. In order to avoid these instances in the future, the federal government should adopt a policy that considers the implications of permit denials on private property rights. And, in cases where a permit denial has resulted in a de facto "taking" of property, we feel that the affected property owner should be compensated for his loss by the government.

NATIONAL ASSOCIATION OF REALTORS® WETLANDS POLICY

Recognizing the extreme environmental significance of wetlands, the NATIONAL ASSOCIATION OF REALTORS® believes that any wetland legislation and regulation should incorporate the following concepts:

1.) a standardized definition for identification which includes hydrophytic vegetation, hydric soils and hydrology;

2.) a clearly defined permitting process which includes all governmental authorities thereof;

3.) the creation of a priority ranking system to identify areas most essential for acquisition;

4.) a requirement of all authorities with regulatory powers to notify state and county governments, local media, and affected property owners of inventories to be conducted in their states; and

5.) the use of mitigation banking.

Thank you again for holding these hearings Mr. Chairman and for allowing the NATIONAL ASSOCIATION OF REALTORS® to participate. I will be happy to answer any questions you may have at this time.

TESTIMONY OF MARK TIPTON

STATEMENT OF

THE NATIONAL ASSOCIATION OF HOME BUILDERS

ON

WETLANDS: IMPLICATIONS FOR SMALL BUSINESSES

BEFORE THE

HOUSE OF REPRESENTATIVES

COMMITTEE ON SMALL BUSINESS

FEBRUARY 6, 1991

On behalf of the 157,000 member firms of the National Association of Home Builders (NAHB), I am pleased to have the opportunity this morning to address the issue of wetland policy and its effect on our nation's small businesses. My name is Mark Tipton, and I am president of NAHB.

First, I would like to thank the Chairman for his dedication to our nation's small business people and for his leadership in organizing these hearings on wetlands. This is truly a small business issue that impacts economic develop and jobs in communities across America.

NAHB is made up of small business people with over half of our members building fewer than 10 homes per year and close to 75 percent of our members building 25 or fewer homes. Unfortunately, during recent times most of our members are building fewer homes than when these statistics were collected. The steady decline in housing starts is not only bad news for our members and the families that could have occupied those new homes, but it is also bad news for small businesses and communities across this country. When builders are unable to obtain building permits from the Army Corps of Engineers (Corps) because of new wetland regulations, electricians, plumbers, and painters go without new projects. Realtors are not given the listings and sales for drapes, wallpaper and furniture are lost by retailers on main street. The investment in fixed residential structures, in real dollars, is equal to 4.3% of our nation's GNP and when you include the spending on new appliances, carpets, and home furnishings, the gross housing output is greater than 7% of GNP, based on the most recent 1988 data.

And, Mr. Chairman, this spending is not only good for the national economy, but it provides increased property tax revenues for our local communities and school systems. Mr. Chairman, the impact of new wetland regulations could not have been stated better than when Amherst, New York Councilman Harold Collier stated, in reference to the Corps new wetland delineation manual, "Municipalities are going to be virtually shut down, if they are not already. It's going to put people out of business." Clarence, New York town engineer Joseph Latona talked about his small community losing over $300 million in assessed value because of the new wetland delineation manual. He further stated, "the tax revenues lost would exceed $9 million a year. Major projects have stopped. It's paralyzing the economy."

Similar statements are being related in Virginia, Georgia, Maine, Florida, the Carolinas and across the county. Our nation's wetland policies do, in fact, affect jobs, the economy and small businesses.

Now, let me say at the outset, NAHB recognizes the importance and value of wetlands. Once known strictly as ugly swamps, wetlands make important contributions to the ecosystem by, among other things, purifying contaminated surface waters, protecting ground water supplies and providing habitat for a wide variety of fish and wildlife. However, our nation's system for protecting valuable wetlands is broken. While two federal agencies are spinning their wheels regulating fill activities, over 80 percent of the wetland losses in this country go largely unregulated. Meanwhile, the housing and construction industries, shouldering a disproportionate share of the regulatory burden, must wait up to 9 months in some Corps districts for a jurisdictional determination, only to learn that their Corps permit could be withdrawn by an EPA veto. And finally, the same protection and regulatory efforts are expended to protect swamps and marsh areas as are efforts to protect small, isolated wetlands of marginal value and function. Mr. Chairman, it is time Congress examined our nation's wetland policies, and overhaul the system.

The history of wetland protection has a rocky past. First, when the Clean Water Act was passed in 1972 and amended in 1977, it did not mention the word "wetlands." It was the federal agencies that interpreted "waters of the United States" to include wetlands.

Second, the Act gave oversight of §404 to two agencies, the Army Corps of Engineers (Corps) and the Environmental Protection Agency (EPA). Rather than taking advantage of the best that both agencies had to offer, the bifurcated administrative structure of the §404 program has fostered 17 years of controversy and excessive permit processing times.

Much of the controversy of recent years has resulted from the inability of the Corps and EPA to develop mutually agreeable policies which protect the nation's waters and wetlands. These policy disputes have left permit applicants without any meaningful guidance on key program standards for years. Then, lacking any further direction from Congress, the Corps and EPA have systematically engaged in a practice of making policy decisions behind closed doors, without allowing public notice and comment. These decisions have resulted in vast amounts of area being included as regulated wetlands. In the Chairman's own congressional district, 75-80 percent of Erie and Niagara Counties are potentially wetlands because of hydric soils and soils with potential hydric inclusions. These results are not unique to your congressional district but can be found in the districts of many of the committee members.

The closed-door, policy-making decisions I refer to began in 1989 when the EPA and Corps issued the Federal Manual for Identifying and Delineating Jurisdictional Wetlands. The manual has expanded the regulatory reach of §404 to areas never before regulated as "wetlands." Even EPA Administrator Bill Reilly has admitted the Manual went too far. In a press statement issued on December 21, 1990, the Administrator said that the Manual may have overreached. He said it was never the Agency's intention to subject to §404 jurisdiction substantial parts of States considered appropriate for development and which don't look to an ordinary person like wetlands.

The problem arises because although the manual states that hydrophytic vegetation, hydric soils, and wetland hydrology are mandatory criteria, and must all be met for an area to be identified as a wetland, there are numerous places in the technical procedures which allow the user to base a wetland determination on the basis of one or two of these parameters. One Corps official said it best when he described the manual as requiring all three parameters in the beginning of the document while the supporting details documented why "they were just kidding" and, in fact, you only needed one parameter to have a wetland. The manual builds circular logic where hydric soils can be presumed to indicate the presence of wetland hydrology, and these two can be presumed to indicate the presence of hydrophytic vegetation under "normal circumstances." This logic has left builders and other small business people confused, bewildered and unaware of the existence of federally regulated wetlands.

However, Mr. Chairman, the Delineation Manual is not the only problem. The agencies continued the practice of closed-door policy making in November 1989 when the Corps and EPA signed the Memorandum of Agreement (MOA) on Mitigation. This closed-door process of policy making caused such an uproar that the White House intervened and delayed the effective date of the MOA three times, until it was finally issued in February 1990 with portions of it revised.

The MOA requires a strict sequencing of decision-making in permit reviews, starting with avoidance of impacts, and allowing mitigation (and thus permit issuance) only for "unavoidable impacts." EPA touts the avoidance test as the most important standard in the §404 permit program, but has been either unable or unwilling to issue comprehensive guidance on complying with the standard. EPA requires alternatives be evaluated when the applicant "enters the market," but has not defined market entry or other questions which arise under the practicable alternatives test, such as "When has the market been entered?" and "What is the geographic scope of search for alternatives?"

Once again, confusion, and the lack of logic has left builders and other small business people baffled. In one case, the strict sequencing requirement of avoidance required a community seeking a permit to build a water supply reservoir to meet increased population growth, to justify why they hadn't considered a moratorium on building permits to reduce population growth and avoid the need for such a reservoir. In another case, a home builder was required to show why he hadn't considered buying property that was not for sale, and was not properly zones for residential housing, to meet the sequencing requirements of proving he had taken all steps to avoid the need for a permit.

The result of all this mess is that jobs are being lost, economic development opportunities missed, tax assessments are threatened, and housing costs are rising. To address these concerns, NAHB formed a Wetland's Policy Task Force, which I chaired, that identified four key policy issues as the causes of the uncertainty, delay, and excessive costs that the Clean Water Act §404 program imposes on home builders. They were: 1) the definition of "wetlands"; 2) permit review standards (primarily the "alternatives analysis"); 3) mitigation; 4) intra- and intergovernmental duplication and overl'ap. Based upon the Task Force investigations and report, the NAHB Board of Directors approved a resolution on Wetland Protection in May 1989 and amended that policy in January of this year. Among the recommendations, NAHB urges Congress to:

- Transfer all authority for wetland permits to the Army Corps of Engineers.
- Exclude from regulations under §404 all land areas which currently fail to meet a strict three parameter definition of wetlands.
- Encourage federal, state and regional research and planning to identify the true source or cause of wetland losses and to direct regulatory attention toward those sources or causes.
- Provide for the compensation of property owners whose land is taken or whose property value is substantially diminished by wetland protection policies.

- Authorize mitigation banking for purposes of complying with §404.

Many of these policy directives are included in one legislative proposal that was introduced in the closing hours of the last Congress and is soon to be reintroduced by Congressman Hayes (D-LA). As proposed, the Wetlands Conservation and Management Act would eliminate permit confusion by placing all permit authority with the Corps. It would eliminate the problems associated with delineation by requiring the clear evidence of all three wetland parameters, soils, hydrology, and vegetation. It would focus wetland protection on our nation's most valuable wetlands by classifying all wetlands into three categories and providing regulatory protection accordingly. And, finally, it would compensate property owners who own the highest category of critically significant wetlands.

Mr. Chairman, as I stated at the outset, NAHB recognizes the importance and value of wetlands, and the need to establish a regulatory system to protect them. But let us have a system that recognizes the value and function of different wetlands and protects them accordingly. Let us also have a system that recognizes that 75 percent of all wetlands are found on private property. And, finally, let us have a system without uncertainty, delay and excessive costs.

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Testimony of
Robert Bostic
of
The Associated General Contractors of America
Presented to the
Committee on Small Business
United States House of Representatives
on the Subject of
How Laws Protecting Wetlands Affect the Small Business Community
February 6, 1991

The Associated General Contractors of America (AGC) is a national trade association of more than 32,500 firms, including 8,000 of America's leading general contracting firms, most of whom are small businesses. They are engaged in the construction of the nation's commercial buildings, shopping centers, factories, warehouses, highways, bridges, tunnels, airports, water works facilities, waste treatment facilities, dams, water conservation projects, defense facilities, multi-family housing projects and site preparation/utilities installation for housing development.

The Associated General Contractors of America
1957 E Street N.W., Washington, D.C. 20006-5199, (202) 393-2040, Fax (202) 347-4004

Good morning, Mr. Chairman. My name is Robert Bostic. I am a Vice President for Forterra Corporation, Norfolk Virginia.

I am testifying today on behalf of the Associated General Contractors of America (AGC). AGC is a national trade association of more than 32,500 firms, including 8,000 of America's leading general contracting firms, most of whom are small businesses. They are engaged in the construction of the nation's commercial buildings, shopping centers, factories, warehouses, highways, bridges, tunnels, airports, water works facilities, waste treatment facilities, dams, water conservation projects, defense facilities, multi-family housing projects and site preparation/utilities installation for housing development.

AGC welcomes the opportunity to present its views on the impact of wetlands laws and regulations, particularly as they affect the small business community. Small, family-owned businesses continue to dominate the construction industry, and AGC therefore appreciates the Small Business Committee's consideration of this legislation from a small business perspective. The Commerce Department's 1987 Census of Construction Industries identified 536,277 construction establishments. The census also revealed that the vast majority of these establishments are genuinely small -- by anyone's standard. The census reflected that, as of 1987:

- 27% of the establishments in the construction industry had annual receipts of **less than $100,000;**
- 54% of the establishments in the construction industry had annual receipts of **less than $250,000;**
- 71% of the establishments in the construction industry had annual receipts of **less than $500,000;**

- **84%** of the establishments in the construction industry had annual receipts of **less than $1,000,000;**
- **93%** of the establishments in the construction industry had annual receipts of **less than $2,500,000;**
- **97%** of the establishments in the construction industry had annual receipts of **less than $5,000,000** and
- **99%** of the establishments in the construction industry had annual receipts of **less than $10,000,000.**

WETLANDS POLICY

AGC recognizes the importance of wetlands to the nation's environment and supports a national policy which would lead to the conservation of those wetland areas which add significantly to environmental enhancement. However, a national wetlands strategy must strike a reasonable balance between protecting valuable wetlands and meeting the economic and social needs of the nation. The Administration's goal of "no net loss" of wetlands must take into account the need for reasonable residential and commercial development. AGC urges the Congress to prevent wetlands policy from becoming a de facto policy of "no new growth." Such a policy would have a devastating impact on the economic viability of many local communities and ultimately the nation.

Recent actions by the Federal government regarding wetlands preservation highlight the need to ensure this balance. The "Federal Manual for Identifying and Delineating Jurisdictional Wetlands" and the Memorandum of Agreement between the U.S. Environmental Protection Agency and the Army Corps of Engineers were both prepared in an effort to provide consistency in the administration of federal wetlands policy. All parties involved in the development of these documents have stated that their objective was uniformity in decision making rather than implementation of a "no net loss" policy.

Despite these assurances, these two documents have already resulted in significant restrictions on development. Based on the definitions of soils, plants and hydrology contained in the delineation manual, significant percentages (70 to 80 percent in some instances) of certain geographic areas may be designated as wetlands. In addition, an area that is wet for as little as one week each year can be designated as a wetland. Other wetland areas that are of little or no ecological value have been protected. Many of the definitions in the manual are very broad, allowing for subjective interpretations. In addition, the Memorandum of Agreement allows for the denial of a permit simply because a non-wetland alternative site for a particular project does not exist. Regrettably, neither document was subject to public comment or review.

The social and economic impact of a "no net loss" policy, which is allowed to be administered as a "no new growth" policy, is significant. Such a policy can lead to an inability to: meet basic infrastructure needs, provide affordable housing, develop new energy sources, expand community tax bases, create new employment opportunities, and provide needed goods and services. In addition, such a policy may in some instances constitute a taking of property without compensation because the economic value of the land may be significantly diminished by being designated as a wetland.

To ensure that the "no net loss" of wetlands policy does not become a "no new growth" policy, AGC recommends the following changes in wetlands policy:

- A system should be developed for realistically classifying wetlands according to their ecological value and function.
- A priority system for protection of wetlands based on these classifications should be developed.
- The definitions for soils, plants and hydrology should be accurately and realistically drafted.
- The classification system should place ecological value on specific plant, soil and hydrology types.
- The classification system should use a cost/benefit formula to measure a wetland's ecological value against a project's socio-economic value.
- Environmental benefits of specific projects should be included in the cost/benefit analysis.
- Proposed wetland mitigation measures should be included as part of the cost/benefit analysis.
- Permits should not automatically be denied based solely on the unavailability of non-wetland alternative sites.
- Permit decisions should be made in a timely fashion.
- Regional differences should be included in the wetlands classification system.

As you know, H.R. 5968, the "Wetlands Conservation and Management Act of 1990" was introduced at the end of the 101st Congress. AGC believes this legislation addresses a number of the issues we have raised in our testimony and we hope this legislation, when it is reintroduced, will be given careful consideration by the 102nd Congress. With any legislative proposal, AGC strongly urges consideration of a flexible policy which will not lead to a significant restriction of development in or near any and all wetlands. A balancing of basic human needs with environmental needs is essential. A "no net loss" policy should **not** become a "no new growth" policy. To do so will **not** be in the best long term interest of the nation.

CORPS OF ENGINEERS PROPOSAL TO INCREASE FEES FOR ITS REGULATORY SERVICES

Another issue of deep concern to small business construction contractors is the Corps of Engineers' publication, on October 11, 1990, of a proposed rule that would increase fees for permit evaluations, and add fees for making wetlands jurisdictional delineations, holding public hearings, and preparing environmental impact statements when required for specific permit applications.

Currently, commercial activities are charged $100 for a permit and those of non-commercial activities are billed $10. This would be increased to $2,000 and $500 for individual permits under the plan. In addition, a charge of $300 would be made for a letter of permission for a commercial activity, $100 for one on a non-commercial activity and $100 for a general permit.

If work were done without the required permit and an after the fact application accepted, a 30 percent surcharge is proposed to reflect the additional expenses involved.

The Corps does not charge now for wetlands delineations, public meetings and most Environmental Impact Statements associated with permit applications. Under the proposal, the charge for wetlands delineations would be based on acreage involved, including $300 for less than 10 acres, $600 for 10 to 50 acres, $800 for 50 to 100 acres, $1,200 for 100 to 500 acres, and $1,500 for over 500 acres.

Furthermore, the proposed rule requires a $1,000 fee for holding a public hearing in connection with a specific permit application, and a $5,000 fee when an applicant prepares an Environmental Impact Statement and provides that document to the Corps for modification, approval or adoption.

Unlike its previous policy, the proposed fees are considered to be an application fee and are non-refundable. In the past, fees were only assessed if a permit was granted.

On December 10, 1990, AGC wrote the Corps of Engineers, stating its opposition to the Corps' proposed rule. With the Committee's permission, a copy of that letter is submitted for the record. In those comments, AGC emphasized the following points:

- The proposed increases in fees will have a discriminatory impact on small businesses. A 2,000 percent permit fee increase, in light of the abundant economic uncertainties which exist today, will have a very damaging impact on smaller projects. This potential "chilling effect" on small projects will, in turn, seriously damage construction markets for smaller contractors. This is an issue of vital concern to AGC, whose membership is over 95% small business according to the current SBA size standards.

- The Corps has not provided adequate justification for the huge increases in fees. Nowhere in the proposed rule does the Corps detail the costs that it incurs for operating its regulatory program. All it refers to are "average costs" and "approximate staff effort." Without additional supporting documentation, it is impossible for the public to determine whether the Corps' proposed costs are fair.

- Tax dollars, not the improper application of user fees, should support the Corps' regulatory program. Unlike the typical instance where a user fee is imposed, the general public does not have a choice in whether or not to obtain a permit. And, why should homeowners or other owners of property, by the mere happenstance that their property is on or near wetlands, be primarily responsible economically for a program so important to our entire nation's environmental well being? Furthermore, if the Corps' fees for its regulatory program have not been funded adequately by the Congress for the program it has been tasked to perform, the Corps should make that point to this body and not hold the American public responsible for its budgetary shortcomings.

- The proposed fees should be refundable if a permit is eventually denied. According to the Corps, fees are to be assessed for certain elements of its regulatory program because **"permit recipients"** receive a "thing of value." Under this reasoning, an applicant who ultimately does not receive a permit has not received a "thing of value" and therefore should not be assessed any costs.

CONCLUSION

AGC thanks the Small Business Committee for affording us the opportunity to testify on this issue of vital importance to our nation's environmental and economic well being. Both environmental and economic considerations must be contemplated when debating this issue. Only then can we meet the proper balance between reasonable and effective regulation of our nation's wetlands.

THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA
1957 E Street, N.W. • Washington, D.C. 20006 • (202) 393-2040 • FAX (202) 347-4004
KIRK FORDICE, *President* MARVIN M. BLACK, *Senior Vice President* ROBINS H. JACKSON, *Vice President*
CHRIS F. WOODS, *Treasurer* HUBERT BEATTY, *Executive Vice President*

December 10, 1990

Mr. Jack Chowning
Office of the Chief of Engineers
Attn: CECW-OR
20 Massachusetts Ave., N.W.
Washington, DC 20314-1000

Dear Mr. Chowning:

The Associated General Contractors of America (AGC) represents more than 32,500 firms including 8,000 of America's leading general construction contracting companies, which are responsible for the employment of more than 3,500,000 individuals. These member contractors perform more than 80% of America's contract construction of commercial buildings, highways, heavy, industrial and municipal-utilities facilities.

AGC appreciates the opportunity to respond to the Corps' proposal to amend its regulations for its regulatory program by increasing fees for permit evaluations, and for the first time, charging fees for making wetlands jurisdictional delineations, holding public hearings and preparing environmental impact statements where required for specific permit applications.

AGC opposes the Corps' proposed rule and emphasizes the following points:

- The Corps has not provided adequate justification for the huge increases in fees. The proposed rule would increase the cost of commercial permits 2,000 percent, the cost of non-commercial permits 5,000 percent, and charges fees for a number of activities where fees were never charged before. The Department of Defense has justified these enormous changes in the cost of doing business for developers, builders, contractors and even individual homeowners because a Department of Defense Inspector General report concluded that "the current Corps regulatory fee structure did not recover a sufficient level of the costs associated with operation of the regulatory program, nor did it appropriately reflect the value of the

THE FULL SERVICE CONSTRUCTION ASSOCIATION FOR FULL SERVICE MEMBERS

services provided by the Government." The proposed rule further states, in accordance with the Independent Offices Appropriation Act (IOAA), that agencies which provide a "service or thing of value" may "recover fees to offset their administrative costs to the maximum extent practicable, but requires that such fees be 'fair' and be based on:

> 1. Costs incurred by the Government to provide the service or thing of value;
> 2. The value of the service or thing to the recipient;
> 3. Public policy or interest served; and
> 4. Other relevant facts."

Further guidance to the IOAA is provided by the Office of Management and Budget's Circular No. A-25. Among other requirements, the circular mandates that agencies, in determining costs, must apply "accepted cost accounting principles."

Nowhere in the proposed rule does the Corps detail the costs that it incurs for operating its regulatory program. All it refers to are "average costs" and "approximate staff effort." Therefore, without additional supporting documentation, it is impossible for the public to determine whether the Corps' proposed costs are "fair." Furthermore, the proposed rule does not specify the cost accounting principles the Corps has employed to arrive at the new proposed fees.

- Tax dollars, not user fees, should support the Corps' regulatory program. The Corps justifies a "user fee" in this instance by stating that it is providing a "service or thing of value." According to the Corps, "value" is conferred upon permit recipients, in part, because "either a permit issuance or denial conveys the benefit of ensuring compliance with statutory requirements and providing a measure of protection from potential litigation." AGC does not view this as the type of "value" envisioned by the Independent Offices Appropriation Act. Further, unlike the typical instance where a user fee is imposed, the general public does not have a choice in whether or not to obtain a permit. It is a mandatory regulatory requirement which the public is now being charged for.

It has been stated that the Corps' fees for its regulatory program must be increased because the Corps has not been funded adequately by the Congress for the program it has been tasked to perform. If this is the case, the Corps should make this point to the Congress of the United States and not hold the American public responsible for its budgetary shortcomings.

- Huge increases in permit fees should not be used as a means by which to achieve a no-growth policy. AGC recognizes the importance of wetlands to the nation's environment and supports a national policy which would lead to the preservation of those wetland areas which add significantly to environmental enhancement. However, a national wetlands strategy must strike a reasonable balance between protecting valuable wetlands and meeting the economic and social needs of the nation. The Administration's goal of "no net loss" of wetlands must take into

account the need for reasonable residential and commercial development. AGC is concerned that the proposed changes to the Corps' regulatory program are part of a larger national policy of "no new growth" which is advocated by certain interest groups. Such a policy will have a devastating impact on the economic viability of many local communities, and ultimately the nation.

The social and economic impact of a "no net loss" policy, which is allowed to be administered as a "no new growth" policy, is significant. Such a policy can lead to an inability to meet infrastructure needs, provide affordable housing, develop new energy sources, expand community tax bases, create new employment opportunities, and provide needed goods and services.

- **The proposed increases in fees will have a discriminatory impact on small businesses. AGC is cognizant that most permit applications will not be submitted by construction contractors directly, but from their clients, such as developers.** The huge increase in permit fees and additional fees for other items proposed in this rule will not cripple economically large developers. However, a 2,000 percent permit fee increase, in light of the abundant economic uncertainties which exist today, will have a very damaging impact on smaller projects. This potential "chilling effect" on small projects will, in turn, seriously damage construction markets for smaller contractors. This is an issue of vital concern to AGC, whose membership is over 95% small business according to the current SBA size standards.

At the very least, the proposed rule should be modified to provide a sliding scale for permit fees depending on the size of the project.

- The proposed fees should be refundable if a permit is eventually denied. Under the new proposal, unlike the Corps' existing program, fees are non-refundable and are in essence application fees. AGC submits that this change in the rule contradicts the rationale for the existence of fees in the first place. According to the Corps, fees are to be assessed for certain elements of its regulatory program because **"permit recipients"** receive a "thing of value." Under this reasoning, an applicant who ultimately does not receive a permit has not received a "thing of value" and therefore should not be assessed any costs.

Sincerely,

John Gentille
Executive Director
Management Services

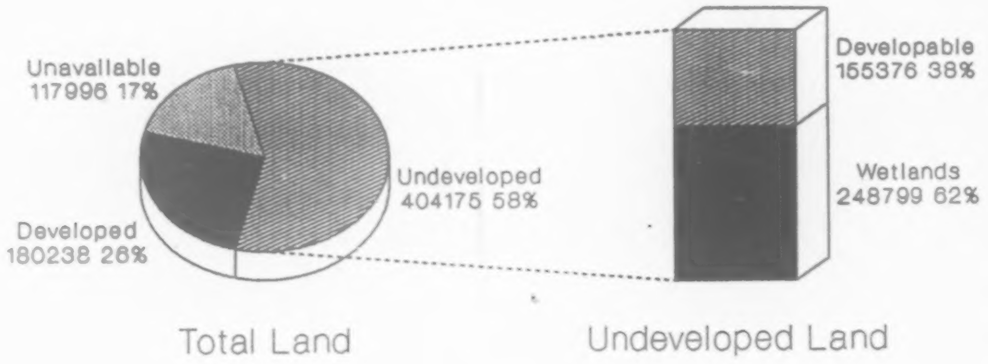
ECONOMIC IMPACT OF WETLANDS REGULATIONS
ON
SOUTHEASTERN VIRGINIA

PRESENTED TO
THE COMMITTEE ON SMALL BUSINESS
UNITED STATES HOUSE OF REPRESENTATIVES
FEBRUARY 6, 1991

Definition of Terms
Composition of Land Uses

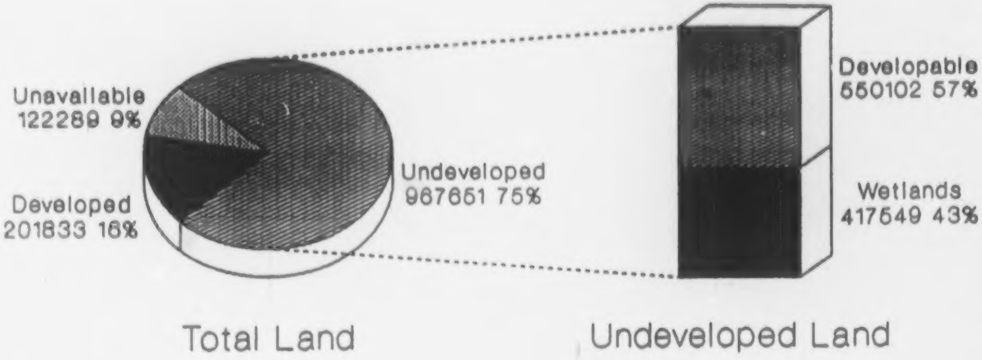
Unavailable:	Land unavailable for development. Includes state parks, state wildlife management areas, national wildlife refuges, undeveloped portions of military bases, etc.
Developed:	Land developed to various urban uses including streets, schools, housing, shopping centers, industrial parks, etc.
Developable:	Land which contains no development and no wetlands and therefore can be developed.
Undeveloped:	Land which contains no development. Includes developable land as well as wetlands.

South Hampton Roads
Composition of Land Uses



Figures are in acres
Five city metro area

Southeastern Virginia
Composition of Land Uses

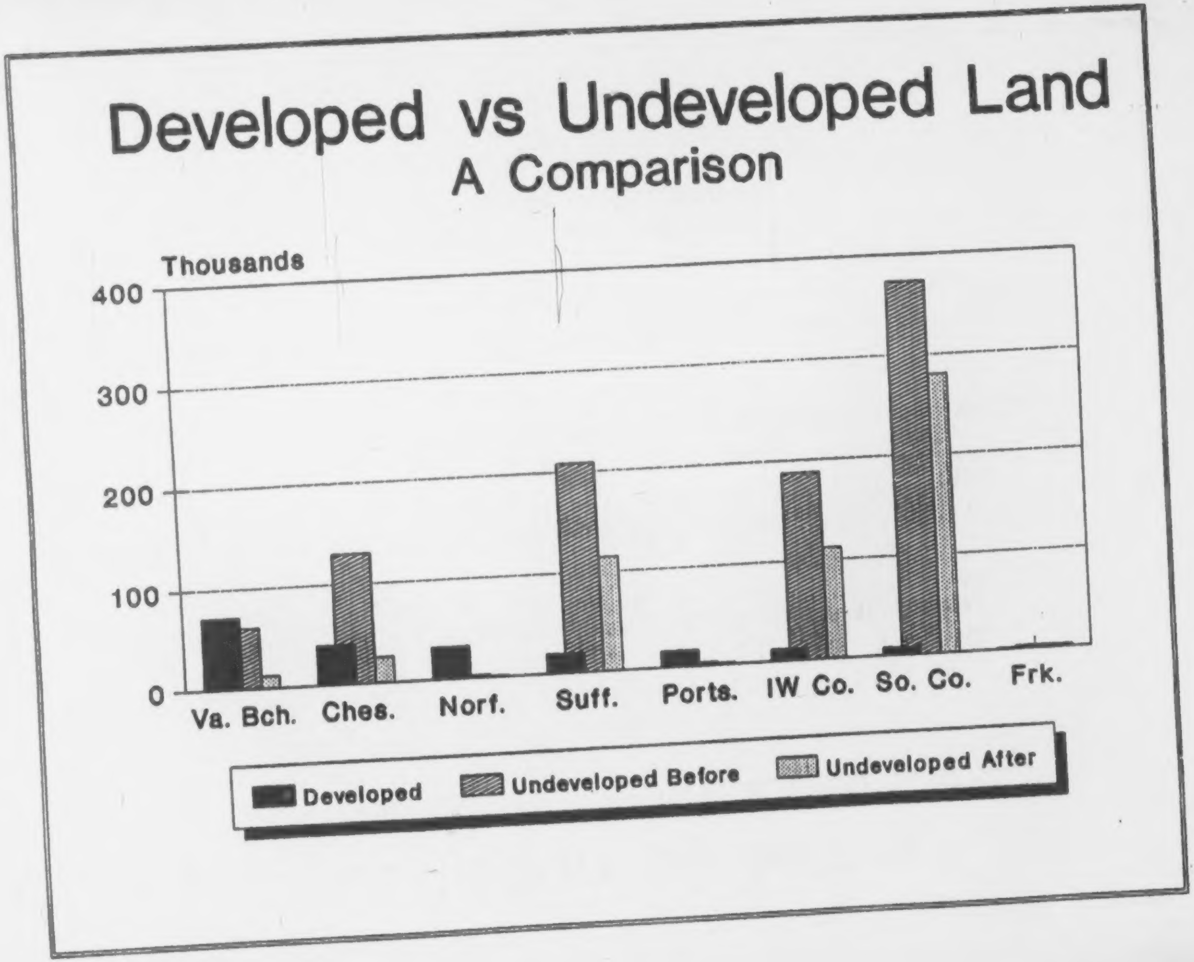


Figures are in acres
Planning District 20

Definition of Terms

Developed vs Undeveloped Land

Developed:	Land developed to various urban uses including streets, schools, housing, shopping centers, industrial parks, etc.
Undeveloped Before:	Undeveloped land available for development before the enforcement of Corps of Engineers wetlands regulations. Land includes undeveloped wetlands and uplands.
Undeveloped After:	Undeveloped land available for development after the enforcement of Corps of Engineers wetlands regulations. Land includes undeveloped wetlands and uplands.



Developed vs Undeveloped Land
A Comparison

Impacts from Wetlands Regulations

Long-Run Price Changes

- Land Prices
  - Wetlands: Drop 90% or more in value
  - Uplands: Increase in value
    - Ches/VB - 80%
    - Suffolk - 40%
    - IW/So. Co. - 20%
    - Metro - 45%
- Home Prices and Rents
  A 45% increase in land cost can increase price of $100,000 home by nearly $6000 and add $50 to monthly mortage payment
- Cost of Living
  An increase in land costs can increase the local cost of living just as an increase in oil prices can boost the nation's inflation rate

Impacts from Wetlands Regulation

Long-Run Development Impacts

- Opportunity Cost

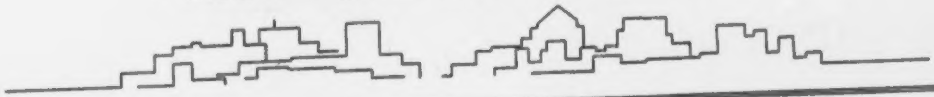
  Approximately $50 billion of development will be lost over a long period of years

  This is equivalent to the value of all real property currently in existence in Greater Hampton Roads - both sides

  The future map of South Hampton Roads will look very different

- Downsizing of the Development Industry

  Causes of downsizing:
    - Higher home prices
    - Greater risk
    - Fewer attractive sites
    - Slower regional economic growth



Working for the Nature of Tomorrow.

NATIONAL WILDLIFE FEDERATION

1400 Sixteenth Street, N.W., Washington, D.C. 20036-2266 (202) 797-6800

STATEMENT OF

THE NATIONAL WILDLIFE FEDERATION

BEFORE

THE HOUSE COMMITTEE ON SMALL BUSINESS

ON

THE EFFECTS OF WETLANDS REGULATION ON SMALL BUSINESSES

FEBRUARY 6, 1991

PREPARED BY

STEVE MOYER
LEGISLATIVE REPRESENTATIVE -- FISHERIES AND WILDLIFE DIVISION

JAN GOLDMAN-CARTER
COUNSEL -- FISHERIES AND WILDLIFE DIVISION

J. SCOTT FEIERABEND
DIRECTOR -- FISHERIES AND WILDLIFE DIVISION

Printed on Recycled Paper

INTRODUCTION

The National Wildlife Federation (NWF) appreciates the opportunity to provide this testimony to the Small Business Committee and address concerns raised about implementation of Section 404 (§404) of the Clean Water Act. Probably more than any other environmental organization, NWF has an abiding, longstanding interest in §404 because of its importance to protecting the "waters of the United States," especially wetlands, from destruction caused by the discharge of dredged or fill material. NWF's 5.8 million members and supporters --including nature appreciators, anglers, hunters, and concerned citizens-- have been actively involved in wetlands protection since NWF's establishment in 1936, and have advocated strengthening the wetlands protection provisions of the CWA since its passage in 1972. Guardianship of §404 is, and will continue to be, one of our highest priorities.

Therefore, we are deeply troubled about the §404-related controversies, problems, and proposed "solutions" being discussed by this Committee, in the halls of Congress, and across the country. Long a source of heated debate, controversy surrounding implementation of §404 has risen to new heights over the establishment and use of new procedures such as the Jurisdictional

Delineation Manual (Manual) and the Mitigation Memorandum of Agreement (MOA). It is our fervent belief that there are two sides to this debate, and we welcome this opportunity to present our views, especially why we believe vigorous and strengthened implementation of §404 -- rather than its weakening or elimination -- is essential for achieving the goals of the Clean Water Act and the no net loss of wetlands. We urge this Committee to carefully consider our views, and to separate the fact from fiction before taking further action on §404.

WETLANDS ARE IMPORTANT TO ALL AMERICANS, INCLUDING THE SMALL BUSINESS COMMUNITY

Before addressing specific §404 issues, it is useful to remember what is at stake: the waters of the United States, especially its wetlands, provide tremendous ecological, social, recreational, and economic value to the Nation. Scientists have identified a number of important functions provided by wetlands, including fish and wildlife production, water quality improvement, storm buffering and flood control, and groundwater recharge and discharge. Although many of these benefits are not readily quantifiable, the more we learn, the more we realize just how valuable our remaining wetlands are. For example,

- a 1985 U.S. Fish and Wildlife (FWS) survey estimated that annually 58 million Americans spend about $28 billion on sport fishing, and 5 million Americans spend $1.2 billion on waterfowl hunting;

- 11 million Americans spend $1.2 billion observing or photographing waterfowl and shorebirds[1];

- based on data from the National Marine Fisheries Service (NMFS), Congress estimated that wetlands contribute to a commercial marine harvest at over $10 billion annually including the Gulf shrimp fishery which was worth more than $3.5 billion alone (after processing).[2]

- according to the U.S. Army Corps of Engineers (Corps), through its work with the Charles River Natural Valley Storage Project, Massachussetts (completed in 1984), $3 million in flood damage could be expected annually if less than half of the wetlands associated with the Charles River were lost, and destroying all Charles River wetlands would result in $17 million in annual flood damage costs.[3]

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[1] From: The 1985 National Survey of Fishing, Hunting, and Wildlife Associated Recreation. 1988. U.S. Dept. of the Interior, U.S. Fish and Wildlife Service. 167 pp.

[2] From: Findings section of the Emergency Wetlands Resources Protection Act of 1986.

The wetlands benefits provided to individuals and businesses in the form of flood protection, water quality improvement, and groundwater recharge, although difficult to measure, are demonstrably significant since local, state, and federal governments spend millions of dollars to generate these benefits each year. Congressional action that weakens wetland protection will ultimately weaken commercial and sport fishing and tourism industries, and will strain government efforts to maintain clean and abundant water supplies and flood control. There is much at stake as Congress debates §404 and wetlands policies. We urge you to consider both sides of the economic coin before you act.

WETLANDS LOSS IN THIS COUNTRY CONTINUES AT A HIGH RATE, AND A STRONG REGULATORY PROGRAM IS NEEDED TO STEM THE TIDE

Even as we are only beginning to understand and quantify the functions and values of wetlands, the Nation continues to lose these resources at a high rate. A 1990 study by FWS[4] found that in the lower 48 states the Nation has lost over half of the wetland acreage it possessed 200 years ago. This translates to a loss in excess of 60 acres per hour between the 1780's and the 1980's. Some states have been particularly hard hit: California and Ohio have lost over 90%, New York and 22 other states over 50%, and Florida has lost the most of any state --9.3 million acres (46%). Within the states, particular areas are especially vulnerable. For example, in the lower Great Lakes - St. Lawrence Basin area of New York, Pennsylvania and Ohio, 20,000 acres are lost each year, "usually an acre or two at a time."[5]

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[3] From: Status Report of our Nation's Wetlands. 1987. National Wildlife Federation. 47 pp.

[4] From: Dahl, T.E. 1990. Wetland losses in the United States 1780's to 1980's. U.S. Dept of the Interior, Fish and Wildlife Service, Washington, D.C. 21pp.

With these tremendous acreage losses go the corresponding loss of wetlands functions and values. Continental waterfowl populations are at an all time low, approximately one third of all U.S. threatened and endangered species are wetland dependant, and NMFS believes that coastal and estuarine fish production is threatened by the currently high rate of coastal wetlands loss. According to the FWS, "...wetland acreage has diminished to the point where environmental and even socio-economic benefits (i.e., groundwater supply and water quality, shoreline erosion, floodwater storage and trapping of sediments, and climatic changes) are now seriously threatened."[6]

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[5] From: Fish and Wildlife Facts: The Lower Great Lakes - St. Lawrence Basin Joint Venture, U.S. Fish and Wildlife Service.

[6] Dahl 1990.

The Nation has realized the severity of the problem and has begun to take positive steps to stem the tide of wetlands loss In the 101st Congress alone, several wetlands laws were enacted, including the new wetlands provisions of the 1990 Farm Bill, the North American Wetlands Conservation Act, and the Coastal Wetlands Restoration and Protection Act. Through these laws, and many other federal and state laws already enacted, the Nation will be spending literally hundreds of millions of dollars to save and restore wetlands.

These efforts --meritorious and ambitious as they are -- are doomed unless the Nation has a strong, complementary regulatory program that restricts the conversion of yet more wetlands for development purposes. For example, it makes little sense to invest public dollars into shoring up Louisiana's wetlands for the public benefit they provide, only to allow Louisiana developers to convert nearby wetlands willy-nilly for private benefit. Federal efforts to purchase and restore wetlands must be complemented by real restrictions which protect the functions and values of wetlands that accrue to the public at large. We cannot simply "maintain and restore the chemical, physical, *and* biological integrity of the Nation's waters" without a *combination* of strong regulatory programs and ambitious acquisition and restoration efforts.

WETLANDS REGULATION UNDER §404 HAS ALWAYS BEEN A CONTROVERSIAL COMPONENT OF THE CLEAN WATER ACT

The recent controversies over the Manual and the MOA are not the first policy debates over §404 of the Clean Water Act -- only the latest. Indeed, the biggest policy debate may now -- after 20 years -- finally be behind us. That is, whether Congress intended §404 to protect wetlands at all! To us, the answer has always been clear.

When Congress passed the Federal Water Pollution Control Act in 1972, it fully intended to preserve and enhance "the chemical, physical, and biological integrity of the Nation's waters" by controlling the discharge of pollutants into these waters.

> ...[I]n 1972, the Congress broadened the traditional definition of navigable waters in recognition of the fact that pollutants migrated into the Nation's waters through water courses, swamps, creeks, and underground sources, many of which were simply not 'navigable' in the traditional sense but the pollutant impact was sufficient to merit regulation.[7]

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[7] From: Congressional Record S9760-62 (daily ed. June 5, 1975) (Statement of Edmund Muskie)

Ironically, it was the Corps, now much maligned for exerting broader §404 jurisdiction, that intransigently denied that §404 was a wetland protection program and struggled to narrow its §404 jurisdiction over wetlands for almost two decades. It was this unlawfully narrow view of §404 jurisdiction which forced NWF and other environmental groups to invest substantial resources in corrective legal actions, such as Natural Resources Defense Council v. Callaway[8], National Wildlife Federation v. Marsh[9], Avolleyes v. Sportsmen's League v. Marsh[10], and the National Wildlife Federation v. Laubscher[11]. Gradually, the Corps adopted a more legally defensible view of §404 jurisdiction in wetlands: one consistently held by Environmental Protection Agency (EPA), overseers of §404, environmental groups, and the U.S. Supreme Court. See U.S. v. Riverside Bayview Homes, Inc.[12]

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[8] 392 F. Supp. 685 (D.D.C. 1975)

[9] 568 F. Supp. 985 (D.D.C. 1983)

[10] 715 F. 2d. 897 (5th Cir. 1983)

[11] 662 F. Supp. 548 (S.D. Tex. 1987)

[12] 106 S. Ct. 455 (1985)

The debate over the Corps' stewardship of the program has raged in Congress as well. In reauthorizing and amending the CWA in 1977, Congress reaffirmed its intention regarding the role of §404 in protecting wetlands:

> ...There is no question that the systematic destruction of the Nation's wetlands is causing serious, permanent ecological damage. ... The unregulated destruction of these areas is a matter which needs to be corrected and which implementation of section 404 attempted to achieve.[13]

Additionally, Congress has held numerous oversight hearings on §404 over the past 10 years, including those by subcommittees of the House Public Works and Transportation Committee in 1982 and 1988, the House Merchant Marine and Fisheries Committee in 1982, the House Government Operations Committee in 1986, and a series of four hearings by the Senate Environment and Public Works Committee in 1985. At each of these hearings, NWF and other environmental groups documented repeated Corps' attempts to avoid or restrict its jurisdictional authority to regulate the discharge of dredge and fill material into wetlands. At each of these hearings

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[13] S. Rep. No 95 - 370, 95th Cong., 1st Sess. 10 (1977)

Congress learned about deficiencies in the program, including lack of enforcement, inconsistent policies regarding mitigation, and inconsistent procedures for delineating wetlands.

Clearly, the §404 program has suffered through almost 20 years of schizophrenic policies and half-hearted implementation by the Corps. The result has been millions of wetland acres lost and considerable dollars, energy, and time consumed by environmentalists and developers alike in costly governmental challenges. It is against this backdrop that we view recent Corps and EPA initiatives on §404 as generally positive improvements which settle longstanding interagency disagreements on the scope of §404 and the role of mitigation. We believe the Manual and Mitigation MOA, in particular, will provide both a smoother running program, and a greater degree of wetland protection. These initiatives -- very long in coming -- should not be abandoned without a clear understanding of their _real_ effect -- and the consequences of their abandonment.

THE JURISDICTIONAL MANUAL IS AN ESSENTIAL COMPONENT OF THE §404 PROGRAM AND MUST NOT BE ABANDONED

The Jurisdictional Manual is at the crux of this subcommittee's concern -- and at the crux of of the wetland debate. Yet, such a uniform method for identifying §404 wetlands is absolutely fundamental to an equitable, predictable, and effective regulatory program. Abandoning the Manual is not a solution. Again, the history of this debate is instructive.

In 1977, the Corps promulgated -- after notice and comment rulemaking -- a wetlands definition which began the use of the three criteria test for wetland delineation: hydric soils, the prevalence of hydrophytic vegetation, and the presence of ponded water or water-saturated soils for a prolonged period during the growing season. While the agencies and the public reached apparent concensus on the definition of wetlands, such consensus and consistency is far more difficult to achieve in applying the definition "on the ground" -- where the underlying science and procedures are often complex and variable. During the 1980's, the Corps, EPA, and the FWS have held differing delineation methodologies. Even individual Corps Districts have varied significantly in their delineation procedures. In the 1980's, environmentalists watched in clenched fist frustration as thousands of wetland acres were destroyed in Corps Districts where wetlands were delineated too narrowly. The regulated community has been just as frustrated, suffering the inconsistencies between the different agencies and Districts, and the delays and costs precipitated by agency negotiations and litigation.

Finally, after years of bickering over where to "draw the line" between wetland and upland, wetland experts from the Corps, EPA, FWS, and the Soil Conservation Service (SCS) developed, field-tested, and began to apply a uniform, biologically defensible, set of procedures for delineating wetlands --the Manual-- in 1989. NWF supports the Manual because it is biologically-defensible and because of the inter-agency consistency it provides to delineators. We will continue to support the Manual as long as it remains biologically-defensible, and we are prepared to support technical revisions to the Manual, as long as political considerations do not compromise its scientific integrity. The Corps, EPA, FWS, and SCS scientists have received voluminous comment from hearings held around the country last summer. They have developed numerous refinements based on their own one year field evaluations and this public input. NWF urges Congress to support the Manual with these technical revisions and not abandon the scientific basis of wetland delineation and exacerbate wetlands loss in this Nation.

The Manual, like any scientific tool, is not perfect. It is a dynamic document and subject to improvements. But neither is it an evil bureaucratic tool designed solely to bring vast new acreages of the U.S. into §404 jurisdiction, as has been portrayed by some commentators recently. Particularly troubling to us are pronouncements heard frequently that unrealistically high percentages of some areas (for example a state, or a particular region of a state) have become jurisdictional wetlands "overnight" because of the Manual and that these areas are now completely off limits to development. Perhaps the most outrageous example was from a recent editorial in the Detroit News: "As currently defined, wetlands could conceivably encompass 70% of the United States. It would then be off limits to further development or usage." [14]

First, these pronouncements forget that the Corps was unlawfully excluding many of these areas from jurisdiction prior to the Manual. These alarmist pronouncements apparently are based erroneously on equating the presence of hydric soils with the presence of §404 jurisdictional wetlands. Soils classified as hydric have, for example, often been drained, removing the water necessary for a wetlands classification. Similarly, critics allege that the Manual brings into §404 jurisdiction areas which are "dry land", and not "true" wetlands. In fact, the Manual requires the satisfaction of all three parameters (hydrology, soils, vegetation) to define a wetland and not merely the presence of a single parameter. There is an old adage that says "you can't judge a book by its cover". Similarly, just because a wetland is not "wet" year round, may be "small" in size, or does not "look" like a wetland to some observers, does not make it any less a wetland with all its attendant functions and values. On the other hand, an area is not a wetland if it does not satisify these three criteria.

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[14] From: Editorial by the Detroit News, January 28, 1991.

MANY OF §404's PROCEDURAL PROBLEMS CAN BE REMEDIED WITHOUT WEAKENING 404 WETLANDS PROTECTION

Few have criticized the technical and scientific aspects of the Manual. Instead, most of the substantive criticisms of the Manual involve the difficulty in obtaining quick reliable answers to the question, "are there wetlands on my property?" For example, landowners are sometimes experiencing long delays in receiving delineations from the Corps District offices, sometimes purchasing -- at considerable expense -- inaccurate delineations done by poorly-trained private consultants, and are sometimes just plain confused about the Manual's content and effect. Similar problems with getting dependable answers out of Corps and EPA personnel apparently exist in the permitting process as well. We share these concerns. Indeed, environmental groups have always had difficulty getting service from the Corps. We urge Congress to join us in seeking resolutions to these problems as soon as possible to improve application of the Manual and to smooth and expedite administration of the program. In this regard, we recommend the following:

- Require the Corps and EPA, or an independent body such as the National Fish and Wildlife Foundation, to prepare -- on an expedited basis -- a workload analysis/needs assessment of the EPA and the Corps to determine the resources (funding and personnel) needed by these agencies to improve implemention of the §404 program. Particular emphasis of such an analysis should be to identify the resources needed to improve and expedite wetland delineations and overall implementation of the program. It is widely agreed that the Corps and EPA require far more resources than they currently have to fulfill their §404 responsibilities adequately. What is unclear, however, is precisely how much more is needed by the agencies to alleviate the problem.

- Based on results of this study, seek additional appropriations for §404 administration and provide these resources to the Corps District offices and EPA regions where they are needed most.

- Require the Corps and EPA to use a portion of any new funding for implementing the new wetlands delineation training and certification program established by the 1990 Water Resources Development Act. Upgrading and expanding the technical training of Corps and private consultant wetland delineators is essential for improving this program. Establishing certification standards and conducting intensive training programs nationwide to achieve certification will largely accomplish this upgrade.

- Require the Corps and EPA to use a portion of any new funding to improve their §404-specific education and outreach programs. Undeniably, §404 can be a complex program, confusing both the regulated and the non-regulated communities. Whatever it takes --perhaps producing and distributing new brochures and videos, or simply attending and participating in local meetings and on site visits with landowners-- these agencies must do much more to explain the §404 program to members of the public affected by it.

- Use additional funds to expedite and complete the wetlands mapping process currently being conducted by the National Wetlands Inventory of the FWS. Additional resources should be provided to local or regional "hotspots" where the potential for large acreages of jursidictional wetlands being identified exists. To date, FWS has completed mapping wetlands on about 65% of the U.S. Additional funds are needed to complete this process and to distribute these maps rapidly to Corps District offices and other sites where they can be used by the public. While these maps are not explicitly designed to deliniate §404 jurisdictional wetlands, they can provide an important and useful "early warning system" to the public regarding the location of potential §404 wetlands.

- Direct the Corps and EPA and appropriate necessary funds --

to delineate and map §404 wetlands in watersheds and ecosystems where the need is particularly acute, such as where wetland acreages are particularly difficult to identify and where development pressure is strong.

The NWF acknowledges that implementation of §404 has been plagued with institutional and administrative problems. These problems must be remedied. But, rather than "solve" these problems by wholesale changes and/or elimination of the program, as some suggest, we instead urge Congress to work within the existing framework and to "fine tune" the process. Only in this way can the program's procedural limitations be improved, while maintaining its critical wetland resource protection provisions.

MITIGATION SEQUENCING AND THE §404(b)(1) GUIDELINES ARE OF CRITICAL IMPORTANCE TO THE §404 PROGRAM

Only second in intensity to the debate surrounding the Manual is the controversy regarding mitigation sequencing required under the §404(b)(1) guidelines. These Congressionally-mandated guidelines, promulgated by EPA in 1980, require permit applicants to first avoid wetlands destruction where practicable, then minimize unavoidable impacts, and finally, compensate for unavoidable impacts. Until 1989, the Corps, oftentimes illegally, did not uniformly apply EPA's mitigation sequencing requirement.

This dramatic difference in how these two agencies applied mitigation policies engendered considerable conflict and controversy within the regulated community as well as the environmental community.

Similar to the §404 jurisdictional disputes, NWF and other environmental groups have spent the past 12 years arguing in court, in Congress, and in administrative proceedings, that the strict sequencing requirements set out in the guidelines should be rigidly adhered to by the Corps in its permit process. Conversely, the regulated public has generally argued for a much less rigorous --and a much more subjective-- public interest review of mitigation options, a standard generally far less protective of the Nation's wetlands resources. If both sides could agree on one thing it was that the two agencies needed to concur on how to interpret their §404 mitigation requirements and then make the process uniform, consistent, and predictable. In fact, this was among one of the leading recommendations endorsed by the National Wetlands Policy Forum in 1988.

In a good faith effort to resolve this dispute, EPA and the Corps worked more than 5 years to come to agreement on a unified wetlands mitigation policy. When, in late 1989, the final MOA was signed by the agencies, the outcry from some elements of the regulated community was deafening. This outcry led to withdrawal of the MOA and its weakening before being reissued several months later in February 1990. Despite the setbacks in the MOA during its revision by the Bush Administration, NWF still considers the MOA to be a positive step because it finally forced the Corps' permit review process to conform more consistently to the guidelines, as it should have always done.

A strong mitigation sequencing requirement is of paramount importance to §404 and to achieving the CWA goal. By requiring permit applicants to first avoid impacting wetlands, the Corps can no longer play "let's make a deal" by allowing destruction of natural wetlands in exchange for restored or created wetlands. These systems, intended to compensate for lost function and value, often fail for a variety of reasons[15] but primarily because the "science" of wetland restoration and creation is so uncertain and so poorly developed. Therefore, protecting the many public values of wetlands is best served by placing the highest priority on avoidance, as is memorialized in the current wetlands mitigation MOA.

Just as myths about the Manual have arisen, so too have myths arisen about the MOA. For example, some assert that the Corps is now "denying everything" -- that permit applicants "can't do anything" in wetlands anymore because of the MOA. This simply is not true. Just last week this Committee heard the Corps testify that only 500 of 15,000 --less than 4.0 percent of the individual permits were denied last year[16]. In fact, of 15,000 individual permits considered by the Corps, 10,000 -- fully two thirds -- were approved and another 40,000 discharge activities were approved through general permits. Separating fact from fiction, the MOA may be tightening the sequential mitigation standard in some Corps districts, but it is certainly not causing widespread permit denial.

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[15] From: Evaluation of compensating mitigation under Section 404 in the Pacific Northwest. Mary E. Kentula, NSI Technology, Inc., and Jean C. Sifneos.

Nonetheless, myths die hard. We now hear calls for new §404 wetland indexing/categorization schemes to ease the "burden" of mitigation sequencing. Allegedly, this change is needed because the Corps is treating all wetlands, even "insignificant ones," as "being created equal." We firmly believe that the existing guidelines and MOA contain ample flexibility needed to tailor the degree of regulation to the functions and values of wetlands through the use of EPA's advanced identification process and other comprehensive planning processes, and through the application of practicable alternatives and mitigation requirements. Clearly, one factor to be considered in the practicability of an alternative can be the wetland values and functions being preserved as a result of choosing an alternative project location or design. Moreover, compensatory mitigation is required to offset the wetland values and functions lost. Hence, compensatory mitigation requirements are "higher" for larger wetland acreages and greater wetland functions.

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[16] From: Testimony provided by the Army Corps of Engineers before the House Small Business Committee, January 30, 1991.

Consequently, while we recognize that "not all wetlands are created equal" and that this premise must be recognized in the §404 program, any such "valuation" process should continue to be conducted through the use of comprehensive planning at the watershed level, consistent with §404, and the continued recognition of relative wetland function and value in the guideline alternatives analysis and compensatory mitigation process.

SECTION 404 IS LIMITED AND MUST BE STRENGTHENED TO STOP THE CONTINUED LOSS OF OUR NATION'S WETLANDS

The message we deliver today, Mr. Chairman, is that vigorous implementation of §404 is essential to achieving the goals of the CWA and to protecting the wetlands of this Nation. However, even with vigorous implementation, §404 is still severely limited in its ability to provide comprehensive wetlands protection. As this Committee reviews the impacts of §404 on businesses, we also urge the Committee and Congress to bear in mind what §404 fails to do to more fully protect wetlands. While they may not be in this Committee's jurisdiction, we believe these are two key improvements to the program that urgently need attention and action to strengthen the §404 program. More can and should be done to both strengthen and streamline §404, but these two key features are paramount.

1. Establish in the CWA a goal of No Net Loss of wetlands in the short term and a net gain of wetlands in the long term.

Endorsed by President Bush, the National Wetlands Policy Forum, and a growing number of Americans, NWF has long endorsed the establishment of this goal in federal wetlands protection laws. During the 101st Congress, Congress established the no net loss goal in the Water Resources Development Act of 1990 and in the Coastal Wetlands Restoration and Protection Act. The time is now right for establishing this goal in the CWA.

What does no net loss of wetlands mean? In simplest terms, it means balancing losses in wetlands acreage and function with gains in wetlands acreage and function. Establishing this explicit national goal in the CWA and its §404 program would make a major contribution to ending the ongoing wetlands loss in this Nation. Working towards-restoring the tremendous values provided by the Nation's wetlands inventory would, over the long term, be well worth the costs of doing so.

Importantly, NWF interprets no net loss to mean that we must hold the line on physical destruction of existing wetlands due to ongoing and future development activity. As mentioned above, the science of wetlands restoration and creation is too unpredictable and too fraught with uncertainty to build a no net loss policy on anything but avoidance first, compensation second. Because the Nation has less than half of its original wetlands inventory remaining, a premium must be placed on preserving existing wetlands.

Finally, a no net loss goal would serve as a regulatory "beacon" to federal agencies, the regulated community, and the American public in general. Such an articulation is consistent with, and an extension of, the CWA goal of "maintaining and restoring the physical, chemical, and biological integrity of the Nation's waters." It would make unequivocably clear to all that the status quo of wetland losses in this country must end and that the Nation must move forward on protecting its diminished wetlands resources.

2. Expand CWA §404 to cover drainage, dredging, flooding,

clearing and other significant physical wetlands alterations, as well as the discharge of dredge and fill material.

The NWF and, more recently, the National Wetlands Policy Forum, recognized that the no net loss goal could not be achieved without the ability to control all major forms of physical wetlands alteration, not just discharges of dredged or fill material as provided under the existing §404 program. The current rate of wetlands loss is a stark reminder that many activities which destroy wetlands --unregulated by §404 and other state and federal programs, and unaffected by Swampbuster (and other Farm Bill programs)-- are not controlled and continue to go unabated. We strongly recommend amending §404 to cover these other forms of alterations.

While this change would expand the reach of §404, it would actually help decrease some of the uncertainty associated with the program. In part because of lack of clear direction from Congress, the Corps has taken a narrow and often inconsistent view of what constitutes a discharge of dredged or fill material requiring a §404 permit. As a result, activities such as ditching, stream channelization, and clearing and bulldozing of wetlands vegetation have absorbed enormous amounts of time by the regulatory agencies (including litigation resources), the regulated public, and environmentalists, in debating whether or not such activities are covered under §404. Expansion of §404 to cover all major physical alterations of wetlands would eliminate this source of uncertainty and the associated resource drain.

CONCLUSION

Although particularly intense, the current controversy over the Manual and the recent controversy regarding the MOA are just two in a long series of issues which have been heatedly disputed under the §404 program. In our view, adoption of the Manual and the MOA are significant steps in the right direction for this program, which, if given a chance and the resources, will work. We urge this Committee, and Congress, to step back from the current controversies to view the program in its 20 year, and oftentimes tumultuous history and not to abandon or weaken it. As well, we urge the Committee to help secure and apply new resources to §404 wetlands delineation, mapping, outreach and education, and to the program in general, to make its value and importance understandable to everyone.

Finally, we urge Congress to support the Nation's burgeoning interest in protecting wetlands by incorporating the no net loss goal into the CWA, and expanding the reach of regulated activites under §404. These are progressive and neccessary changes if we are ever to achieve the goals of the CWA and end the long history of wetlands loss in this Nation.

Thank you again, Mr. Chairman, for the opportunity to appear today before the Committee and provide these comments.

TESTIMONY OF

WILLIAM H. ("ACE") PARKER

PARKER FORESTRY SERVICES

ON BEHALF OF THE

FOREST INDUSTRY WETLANDS TASK FORCE

BEFORE THE

HOUSE SMALL BUSINESS COMMITTEE

FEBRUARY 6, 1991

Mr. Chairman and Members of the Committee, my name is Ace Parker. I am owner of Parker Forestry Services, a timberland management company in Salisbury, Maryland. I appreciate the opportunity to appear before you today on behalf of the Forest Industry Wetlands Task Force (FIWTF). The forest products and pulp and paper industry is very pleased to see the House Small Business Committee review the wetlands issue on such a timely basis -- just prior to the review of the revisions to the "Federal Manual for Identifying and Delineating Wetlands" by the Domestic Policy Council.

The Forest Industry Wetlands Task Force is composed of representatives from the forest products and pulp and paper industries including the National Forest Products Association (NFPA), the American Paper Institute (API), the American Forest Council (AFC) and the American Forest Resource Alliance (AFRA). NFPA represents interests of owners of forest lands and manufacturers of forest products. Its membership includes over 150 companies, 35 associations and more than 600 specialty product associations. API's 175 member companies operate approximately 700 pulp and paper mills nationwide as well as many solid wood manufacturing facilities. AFC represents the interests of private landowners and managers that comprise the membership of NFPA and API. AFC administers the national Tree Farm Program with includes over 70,000 small private landowners.

AFRA's membership includes approximately 250 member companies and several thousand individuals concerned with our nation's timber supply situation.

It is estimated that there are approximately 105 million acres of existing wetlands in the nation today. The forest products industry, comprised of large forest products companies and tens of thousands of tree farmers (woodland owners), manages approximately 50-60 million acres of forested wetlands. These forested wetlands provide wildlife and fisheries habitat, recreation, clean water, and flood control, while also producing a valuable source for timber and fiber needed to meet the nation's growing demand for wood and paper products. Therefore, our industry has a direct and substantial interest in laws and regulations affecting our wetlands resources.

I. National Wetlands Policy Forum Report

In 1987, the Environmental Protection Agency (EPA) commissioned the National Wetlands Policy Forum to develop concensus national wetland policies. The forest industry was one of twenty representatives from government, environmental and industry groups that developed over 100 policy recommendations. The final forum report was released in November, 1988, and recommended a national goal of "no overall net loss of the nation's remaining wetlands base."

The concensus National Wetlands Policy Forum Report recognized that some activities in wetlands have little effect on wetland functions and are largely compatible with wetlands protection. Forestry was specifically mentioned as a compatible economic use in wetlands, and it was emphasized that none of the recommendations of the report were intended to modify the existing regulatory exemptions afforded to forestry contained in Section 404(f) of the Clean Water Act. This position was reiterated in the Forum's concept paper entitled "Recommendations for Federal Wetlands Legislation" released in October, 1989.

The Forest Industry Wetlands Task Force supports the national goal of "no overall net loss" of the nation's remaining wetlands base. Forestry management provides two major contributions to this goal. First, good forest management is a compatible use that protects and maintains wetland functions. Second, forestry provides landowners with an economic incentive to protect their forested wetlands -- and in that way advances the goal of wetlands protection through reforestation (i.e., restoration) of wetlands.

II. "Federal Manual for Identifying and Delineating Wetlands"

Our support for the goal of "no overall net loss" is based on the current regulatory definition of wetlands (i.e., swamps, marshes, bogs, and similar areas). The Forest Industry Wetlands

Task Force supported the Wetlands Forum recommendation that the four federal agencies -- the Army Corps of Engineers (Corps); the Fish and Wildlife Service; the Environmental Protection Agency (EPA); and the Soil Conservation Service -- develop a consistent methodology for delineating true wetlands. However, we cannot support the overexpansion of this definition in the 1989 "Federal Manual for Identifying and Delineating Wetlands. "This "Manual" was released in final form without opportunity for public review and comment under the Administrative Procedure Act.

The federal definition for jurisdictional wetlands in regulations promulgated and used by EPA and the Corps is the following:

> "...those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas." (33 CFR 328.3)

However, the new interpretation of this definition in the 1989 Manual has expanded from 30-50% the amount of jurisdictional forested wetlands in the United States. For example, in Dorchester County, Maryland, where I manage forest land, approximately 70-80% of the county's land area now qualifies as jurisdictional wetlands.

A major reason for this increase is because the "Manual" contains a water hydrology criterion that establishes as "jurisdictional wetland" an area where water is within twelve to eighteen inches of the surface for only seven consecutive days during the growing season. This controversial new "wetlands" interpretation encompasses broad expanses of dry upland areas that do not exhibit characteristics typically associated with wetland functions. In fact, under this interpretation, wetlands would include many areas that bear no resemblance to the picturesque image commonly associated with the term, and would certainly include areas that are not very wet.

The new interpretation of the jurisdictional wetlands definition in the "Manual" would also include vast regions of pine flatwood forests, particularly in the South, that only barely meet the minimum criteria for wetlands jurisdition. Private landowners own approximately 74 percent of the remaining forested wetlands in the country. As a small businessman and private forestry consultant, I can personally attest to the complicated procedures involved in delineating wetlands. This involves the requirement to consult a half dozen technical publications.

The forest products industry presented comments at the field hearings held by the Corps in the summer of 1990 on "technical changes" to the "Manual". Attached is a copy of our technical comments on the "Manual" prepared by the National Council of the Paper Industry for Air and Stream Improvement, Inc. (NCASI), the research and technical arm of the forest products and pulp and paper industry. Our testimony pointed to the following serious problems with the "Manual":

1) The agencies violated the Administrative Procedure Act by significantly expanding the existing regulatory definition of wetlands without opportunity for public review and comment (i.e. proposed rulemaking procedure).

2) The "Manual" recites the definition of wetlands contained in formal regulations adopted by the Corps (33 CFR 328.3) in 1986 and by EPA (40 CFR 232.2) in 1988 as the foundation for determining what lands qualify as wetlands. The last sentence of this reference that states that "wetlands generally include marshes, bogs, swamps and other similar areas" was not included. An approach which focuses on, and adheres to this concept would avoid the controversy that the unjustifiably expansive version has engendered.

3) The federal agencies contend the "Manual" is a clarification and interpretation of the existing wetlands definition and does

not expand the delineation of wetlands or its jurisdiction under Section 404 of the Clean Water Act or the "Swampbuster" provisions of the Farm Bill. Many agency officials, however, agree that it expands the delineation of wetlands under Section 404 of the Clean Water Act. Testimony presented by various representatives, including the forest products industry, at the Corps' field hearings, gave specific "real world" examples of how the Manual has expanded the wetlands definition.

4) The "Manual" states that wetland hydrology is present when the water table is below the surface (twelve to eighteen inches) for as little as one week during the growing season (i.e. 4% of the growing season). This criterion exceeds the clear intent and plain language of EPA's own regulations contained in the Clean Water Act's 404(b)(1) guidelines which emphasize "prolonged wet soil conditions".

For example, the growing season for the State of Maryland would be designated as February through October. This would mean that the growing season would have started last week, yet plants will not actually begin to grow for another six to seven weeks.

5) The "Manual" gives so much discretion to a delineator that the presence of facultative species alone can be used to delineate a wetland. Facultative species are plants that are as likely to occur in upland areas as in wetlands. Therefore, the presence of facultative species alone is not a good indicator of wetlands. Under this interpretation, timberlands could be

considered wetlands if loblolly pine or sweet gum, both facultative species, comprise 51% or more of the site. This determination goes far beyond the intent of Section 404 of the Clean Water Act.

6) The broad wetlands criteria, in combination with the expanded interpretation and discretion of the delineator, will result in lands being classified as wetlands that have no resemblance to the attributes the public associates with wetlands -- fish and willife habitat, floodwater retention, water purification and erosion control. These are the functions that are intended to be protected, and the "Manual" should be written with these values in mind.

III. The Corps' Regulatory Guidance Letter

On September 26, 1990, the Corps of Engineers issued a Regulatory Guidance Letter (RGL) for agricultural lands. This RGL states that farmland will be considered a wetland only when water is present at the surface for fifteen consecutive days. All other land remains as wetland under the "Manual" when the watertable is at twelve to eighteen inches below the surface for more than seven consecutive days.

For forest landowners and managers, this creates an inconsistency in delineating jurisdictional wetlands between farm and forest lands. For example, two adjacent tracts of land, one planted in corn and one planted with pine, would be treated differently for purposes of wetland delineation. The presence of trees results in the use of a different hydrology criteria than for cropland.

IV. Recommended Changes to the "Federal Manual for Identifying and Delineating Wetlands"

It is our understanding that the four agencies intend to finalize their recommendations for changes to the "Manual" and present them to the Domestic Policy Council at the White House for approval within the next several weeks.

The Forest Industry Wetlands Task Force has met several times with the Domestic Policy Council Wetlands Task Force; the Corps of Engineers; and the Environmental Protection Agency to express its concerns. While we have serious concerns with the "Manual" as outlined above, in the short term we have recommended that the following changes be made to provide greater consistency and accuracy to the issue of delineating true wetlands:

1. The hydrology criterion for delineating a "wetland" must contain the concept of water table at the surface (i.e. inundation at the surface) consistent with the recent Regulatory Guidance Letter for agricultural lands. The presence of surface water would be much easier to apply on the ground and would reduce the substantial confusion and subjectivity regarding the determination of water levels below the surface.

2. The growing season should be defined as plant hardiness zones based on the period between the average date of the last Spring frost and the average date of the first Autumn frost. The current "Manual" defines the growing season for Thermic Soils as the period from February through October. This is 6 to 8 weeks before the actual growing season begins in many areas, as measured when the vegetation begins to grow and to transpire water. Plant hardiness zone and data on average frosts are readily available from standard agricultural almanacs.

While these two changes to the "Manual" will help, there remain many other serious technical problems which need to be addressed in order to more accurately identify true wetlands.

V. Summary

The Forest Industry Wetlands Task Force supports the goal of "no overall net loss" of the remaining wetlands base and the concensus recommendation of the National Wetlands Policy Forum Report that appropriate silvicultural activities can be carried out without damaging the wetlands ecosystem.

The forest products industry has serious concerns with the greatly expanded interpretation of "jurisdiction wetlands" in the current "Federal Manual for Identifying and Delineating Wetlands." It is recommended that short term changes to the

"Manual" include an hydrology criterion for delineating a wetland that contains the concept of water table at the surface and growing season language that references regional plant hardiness zones based on average first and last frost dates.

The Forest Industry Wetlands Task Force looks forward to continuing to work with the House Small Business Committee and other Committees in both the House and Senate to help resolve the difficult question of what constitutes a "jurisdictional wetland." Thank you for this opportunity to present our comments.

Attachment

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SUMMARY OF NCASI COMMENTS ON FEDERAL WETLANDS DELINEATION MANUAL

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December 3, 1990

I INTRODUCTION

NCASI has conducted an extensive technical review of the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (Manual). A principal finding is that the Manual is seriously flawed from a technical standpoint and is a major obstacle to development of national consensus on wetlands protection. It is difficult to have meaningful discussion of "no net loss" until there is agreement on the question: "what is a wetland?".

II TECHNICAL CONCERNS

A. The mandatory wetlands identification/delineation criteria and guidelines set forth in the Manual improperly establish new regulatory requirements.

The Manual greatly increased the extent of federal regulatory jurisdiction under Section 404 of the Clean Water Act. This increase in regulatory jurisdiction was implemented without opportunity for public review and comment. This amounts to establishment of new regulatory requirements without benefit of formal rulemaking procedures as required by the Administrative Procedures Act.

B. The wetland identification/delineation criteria and guidelines set forth in the manual are not consistent with the regulatory definition of wetlands.

Many areas that are jurisdictional wetlands under the Manual bear no visible or functional resemblance to "swamps, marshes, bogs, or similar areas".

C. The Manual in its current form is both complicated and imprecise.

The Manual, including appendices, is 120 pages long and presumes the user has extensive knowledge of plant taxonomy and soil science. Moreover, the user must have access to and understand the "National List of Plant Species That Occur in Wetlands" and the NTCHS "Hydric Soils List". These lists of wetland plant species and wetland soil series are continuously updated and, in addition, there are regional and state lists that may be considered more authoritative than the national lists. The lists are neither readily accessible nor interpretable by most landowners.

The result is a very complex procedure that most landowners are incapable of using to delineate wetlands on their property. This is totally unacceptable when it is recognized that many of the guidelines in the Manual are imprecise. The guidelines include many vague, non-specific terms such as "typically", "generally", "usually", "significant", "upper part", "rarely", "closely managed", and "often retain". Consequently, two wetland experts using the Manual will often draw very different delineation boundaries on the same tract of land.

D. The hydrophytic vegetation criterion in its current form is not a useful or appropriate tool for identifying and delineating wetlands.

The Manual's hydrophytic vegetation criterion is met if more than 50 percent of the of the dominant species from all strata are facultative (i.e. species that are equally likely to occur in wetlands or non-wetlands). Thus, the hydrophytic vegetation criterion excludes extremely dry sites from jurisdiction but is of little value in determining the boundary between wetlands and non-wetlands. In an extreme case, the hydrophytic vegetation criterion would be met where the dominant species composition is 51% facultative and 49% obligate upland.

E. The hydric soils criterion is not consistent with the regulatory definition of wetlands.

Under the Manual, a soil may be hydric if the water table is within 12 or 18 inches of the surface (depending on permeability) for seven consecutive days during the growing season. No consideration is given to the dominant saturation depth. A soil could be classified as hydric because the water table is within 18 inches for a week in February or March, yet the depth to water table may be 4 feet or greater for 80% to 90% of the growing season. Some soils included on the Hydric Soils List on the basis of the NTCHS criteria are clearly not "inundated or saturated at a frequency and duration sufficient to support.... a prevalence of vegetation typically adapted for life under saturated soil conditions".

F. Many soils have been included on the Hydric Soils List without adequate technical justification.

Technical data on spatial and temporal distributions of water table depth are extremely limited for many soil series. Some series on the Hydric Soils List probably do not meet even the current nonrestrictive NTCHS Criteria. Procedures used to determine whether to include "borderline" series on the list should be documented and widely distributed for public review and comment. The procedures should identify the quality and quantity of data needed to determine whether or not a soil is hydric.

III SUGGESTED ALTERNATIVE APPROACH TO WETLAND IDENTIFICATION AND DELINEATION

A. Introduction

This section proposes an alternative approach to developing a wetland identification/delineation method. The proposed alternative approach is consistent with that in the Manual in that soils, hydrology, and vegetation are considered. It differs from the approach in the Manual in that it also considers landform and explicitly links wetland identification/delineation to a wetland classification system.

Implementation of the suggested alternative approach would require substantial revision of the Manual. The effort required for revision is warranted by the importance of the Manual to natural resource protection, economic development, and the achievement of the "no net loss" objective. Without substantive revision, the Manual will never gain broad public acceptance because it will remain both complex and arbitrary. Minor adjustments to numeric limits in the current delineation criteria could satisfy some interests groups but will not produce a method that is a sound foundation for a national wetlands policy.

B. Description of alternative approach to development of wetland identification/delineation method

Wetland classification is the essential first step in the development of a simpler and more objective method for identifying and delineating wetlands. Classification makes feasible a method in which users determine whether an area in question is an example of one of several broadly defined wetland types. The method would involve use of narrative definitions and descriptions, diagrams, color photographs, and other tools for identifying and delineating wetland types as landforms. Landform classification is an integral part of wetland mapping and assessment systems used in Canada and several Scandinavian countries.

Initially, a classification-based wetland delineation method would be national in scope with a limited number of broadly defined wetland types. The initial method would be viewed as a basis for development of more detailed regional methods in which wetland subtypes of regional importance are defined and described.

C. Rationale for identification/delineation method based on wetland classification system

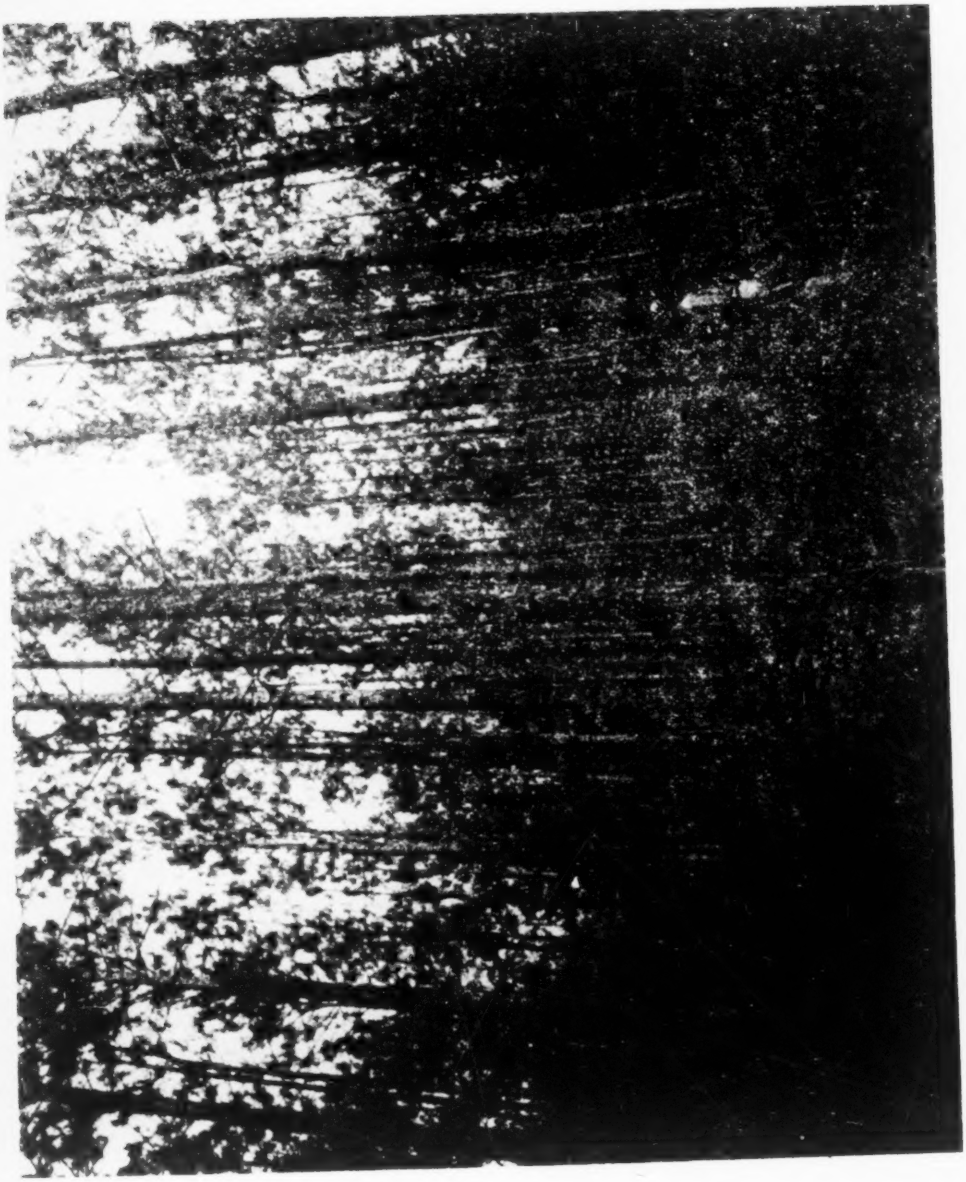
"Wetland" is a synthetic concept encompassing many diverse wetland types (swamps, bogs, marshes, etc.) that vary greatly in origin, appearance, landscape position, hydrology, and ecological functions. There is no natural phylogenetic basis for separating uplands from wetlands as there is for separating plants and animals. Attempts to define and describe "wetlands" generically without reference to specific wetland types are consequently arbitrary and imprecise. In the absence of a precise definition and description, wetland identification and delineation become intractable tasks.

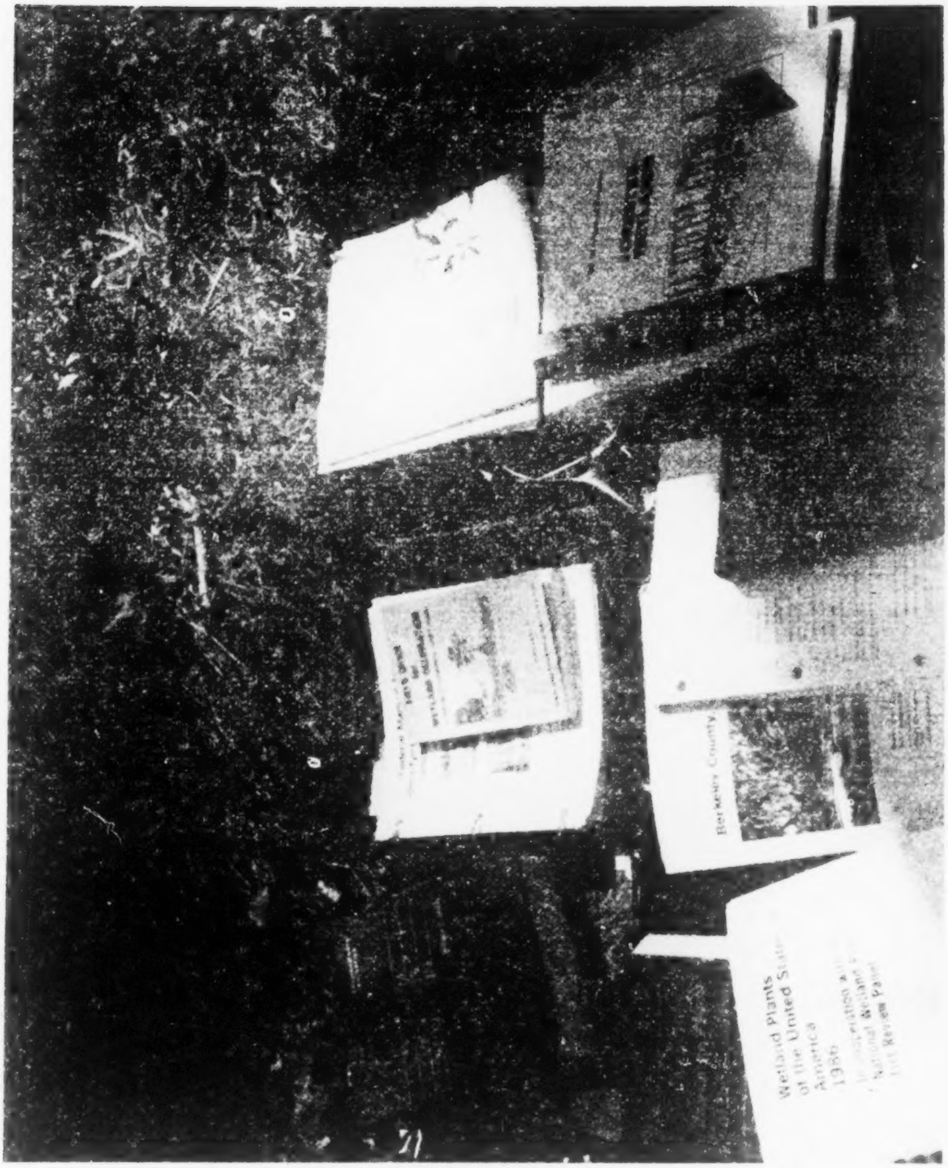
Definitions and descriptions can be somewhat more precise for individual wetland types. For example, a bog is "waterlogged, spongy ground, consisting primarily of mosses, containing acidic, decaying vegetation such as sphagnum, sedges and heaths, that develops into peat" (National Soils Handbook, Glossary of Landform and Geologic Terms, Nov. 1985). Subtypes of bogs and other broad wetland types could be recognized if more precise definitions and descriptions are desired.

Once wetland types are defined and described precisely, the task of wetland identification/delineation can be addressed by determining whether an area in question is an example of any of the types. Determinations would be made using criteria that are simple and objective relative to those in the current Manual. Developing and testing criteria for each of several wetland types will be a formidable undertaking, but far less formidable than developing a single set of criteria applicable to all wetlands.

Concepts and principles of geomorphology will be useful in making wetland identification and delineation more tractable and less subjective. Wetland types are "landforms" and, as such, are discernable not only by their soils, vegetation, and hydrology, but also by their characteristic positions and geomorphology in landscapes.

Precise definitions and descriptions of wetland types and associated identification/delineation criteria should be developed within the framework of a wetland classification system. The classification system would describe structural or functional relationships among wetland types and associated uplands that would be useful in delineating wetland boundaries. Moreover, the classification system would provide a basis for assessing the impacts of alterations on wetland functions and developing appropriate mitigation strategies.




Berkeley County
Wetland Plants
of the United States
America
1986

TESTIMONY OF FRANK L. CIMINELLI ON BEHALF OF THE NATIONAL ASSOCIATION OF INDUSTRIAL AND OFFICE PARKS BEFORE HOUSE COMMITTEE ON SMALL BUSINESS HEARING HELD IN WASHINGTON, D.C. ON FEBRUARY 6, 1991

Mr. Chairman, members of the Committee, thank you very much for permitting me to speak to you today. The issue of the impact of the Section 404 wetlands regulations is of vital importance to the entire construction industry. I congratulate this Committee and its Chairman for recognizing the significance of the wetlands issue and for responding so quickly.

My name is Frank Ciminelli. I am here as a representative of the National Association of Industrial and Office Parks ("NAIOP") and of the entire real estate development and construction industry in Western New York. I am the Chairman of the Ciminelli Companies, which are actively involved in the Niagara Frontier Builders' Association and the Greater Buffalo Association of Realtors. Ciminelli Development Company, Inc. is one of the larger real estate development companies in the Western New York area. I have personally participated in the construction and development industries for over thirty (30) years.

Fundamentally, I am a businessman appearing on behalf of other businessmen. I am not an engineer or an attorney, and so I will leave the specific analysis of the technical dimensions of the problem to others. But I am keenly aware of the devastating economic impacts these new wetlands regulations are having on the building industry through the many associations of which I am a member and in whose name I speak to you today.

THE BUILDING INDUSTRY IS ALREADY HEAVILY REGULATED

The building industry is the largest industry in the United States. Despite that, the building industry is directly under the jurisdiction and the protection of this committee because it is composed primarily of small businesses. The average home builder in Western New York, the area were I live and work, builds about 15 homes in an average year. That builder is a small businessman. The average commercial contractor in Western New York builds under 150,000 square feet of commercial space per year. That contractor is a small businessman. Normally, these builders and contractors get their materials from other small businessmen who supply lumber, concrete, plumbing and roofing materials. Most of these small businessmen do not have large, capital reserves to tide them over a long period when they are not selling their homes or building office buildings, warehouses, manufacturing facilities and other construction projects.

The building industry is also a very heavily regulated industry. Already, the industry is subject to a wide range of state and municipal building code and construction requirements. Additionally, since 1978 in New York State, all construction projects have been subject to an environmental review under the State Environmental Quality Review Act, commonly known as SEQR. Many other states have enacted similar environmental legislation.

As an individual, I personally love nature, and I love to surround myself and my projects with a natural setting. As a developer, I believe that a project which is good for the environment is also good for my company in the long run. Requirements that landscaping be included and open space be maintained result in a finished project which not only has less of an impact on the environment, but a project that is also more attractive and desirable in the marketplace.

However, in New York State, the SEQR process with its associated environmental review has added significantly to the time which elapses between the first submission to a municipality of a Concept Plan for a project and the time when final building permits are issued by that municipality. On a project involving over 10 acres of land, which is not a very large project, the SEQR process can easily add six (6) months to the approval process. That number presumes that there is no serious opposition to the project. If anyone challenges the adequacy of the SEQR process and initiates litigation, it is impossible to even project a timeframe. Depending on the basis of the legal challenge, the project may or may not go forward during the period of litigation. All of these delays add to the cost of the project and ultimately to the cost of the finished home or industrial park.

The key issue for this Committee to focus on is that the building industry was heavily regulated before the new wetlands regulations were promulgated, and that existing regulations have already demanded that a lot of "lead time" be expended before a project can get started and the building is in the ground. The Committee should remember that the building season is short in the Buffalo area. Therefore, regulatory delays of several months can cost us not one, but two building seasons. In practical terms, this means that any developer has to have a lot of up-front capital available, or he cannot even think of beginning a project. This capital is needed for the capital costs of acquiring land, the carrying cost of any loans on that land acquisition, the costs for engineering drawings, environmental assessments and legal fees to put the financing in place. The majority of these capital costs must be incurred and paid for before any permits are issued and, therefore, before any construction begins. In many cases, these increased costs have driven small businesses in our community out of the construction industry. As the Committee knows well, when small businesses are forced to close, the competitive climate in any community is diminished, and costs go up for everyone.

WETLANDS REGULATION IS CRIPPLING THE BUILDING INDUSTRY

On March 20, 1989, the Federal Manual for Identifying and Delineating Jurisdictional Wetlands ("Manual") became effective. This Manual was issued by the four federal agencies which have some regulatory involvement with wetlands: the Soil Conservation Service, the Fish and Wildlife Service, the Environmental Protection Agency ("EPA") and the United States Army Corps of Engineers ("Corps").

It is significant to the present issue how the Manual was adopted. Federal regulations are normally subject to the notice and review procedures and public comment requirements of the federal Administrative Procedure Act which governs federal rules-making procedures. This process normally requires the respective agency to publish any new proposed regulations in the Federal Register, and then to provide some forum for both the public and that agency's representatives in the field to comment on the regulations before their adoption. None of this happened with the Manual. The agencies met, the agencies wrote the Manual, and the agencies ignored all of the procedural requirements of the Administrative Procedure Act. It is important for this Committee to note and acknowledge that the Manual has a regulatory effect even though it is supposedly for the internal guidance of the affected agencies. The government merely told the regulated building industry: here it is, now live with it.

Clearly, these actions by the involved agencies constitute an abuse of their authority. The way this Manual was put together was ridiculous and ignored the rights of the citizens of this country. As a businessman, I am appalled and infuriated by this lack of sensitivity to the effect of these regulations. If I showed a similar lack of concern, I'd lose all my customers; and I'd be out of business. Litigation is presently going forward to challenge the validity of these regulations. Unfortunately, many small businesses within the building industry cannot wait until this issue is judicially resolved because many of these small businesses will be bankrupt by then.

In Western New York, implementation of the Corps of Engineers wetlands delineation manual has resulted in serious financial hardships in the construction and its related industries. Numerous local projects which previously had been approved by either the New York State Department of Environmental Conservation or local municipalities have been halted by the Corps. The Manual hit us like a ton of bricks with only a minimal phase-in period. I am not exaggerating when I tell you that many small companies will be closing their doors as a result. Projects which are currently muddling through the permit application process will be delayed far beyond reasonable expectations, leaving the burden of those additional costs to fall on future tenants in the case of office space, or home buyers in the case of residential development. And finally, projects which have not yet begun this lengthy process may experience delays well into 1992. Many projects will probably never be built if the present wetlands regulations remain in place because the necessary permits will be denied.

I'd like to describe a small example of the types of impacts these regulations are having on commercial development. I acquired approximately four (4) acres of ground in the New York State sponsored Audubon Industrial Park in November of 1987 and commenced marketing efforts and the study of alternative design concepts. In July of 1989, an architectural firm was engaged to implement my design and to meet user expectations. This design was submitted to the Town of Amherst, which promptly approved the plans and related site work on August 17, 1989 and issued "site plan approval". Following this approval, out-of-pocket expenses for not only the architectural fees, but also the legal and marketing expenses, were paid. These fees further increased my company's investment in the property. In addition, on October 27, 1989, a permit to clear and grub the site so that construction could commence expeditiously was issued. By January, 1990, the tenant signed a lease document.

Now that we have acquired the site, received the appropriate site plan approvals, made the initial tract ready for speedy construction and signed a lease for the proposed structure, we must stop. An investment of over $80,000, and current obligations, which exceed an additional $40,000, will rest in limbo as a result of the changes in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands because a small amount of vegetation caused by the prevalent soil conditions in Western New York exhibits wetlands potential at the site. Heretofore, due diligence had shown the site was not and could not be regulated under the Corps' Federal Manual. As a result, timeframes in the existing lease document are in jeopardy, additional holding costs will be incurred, additional fees for investigative services for wetlands will be paid, and the profit margin severely eroded, if not completely evaporated. All of these calamities will destroy the economic sense of a project that started about three and one-half years ago.

It has been estimated that local Corps practices, exaggerated by our current economic recession, will result in roughly a 35% reduction in new home starts in Erie and Niagara Counties in 1991. Commercial contractors will suffer an equally devastating impact. These statistics do not affect only construction companies or developers. Unemployment will rise in a multitude of the personnel employed in the crafts and trades associated with the building industry. As we all know, commercial and residential construction public works projects played a powerful role in leading the Buffalo area out of the deep recession of the early 1980s. Although Western New York has in some respects been insulated thus far from the heavy recession hitting the northeastern part of the United States, the "R" word is now being used frequently to describe the climate in our area. The difference this time around is that the construction industry may not survive to bail Western New York out.

Much of the reason Western New York was not hit sooner by the current recession was the favorable impact of the Canadian Free Trade Agreement which Congress worked so hard to enact. Now the benefits of free trade are jeopardized. Canadians wishing to locate businesses in Western New York cannot find land on which to locate their facilities. This is crazy! One set of laws should not be fighting the intent of another body of laws.

Moreover, the negative impact of the Manual is not limited to private developers. My Company has undertaken to construct an industrial park with the Town of Cheektowaga in Erie County which is jeopardized because of these wetlands regulations. So, even local governments are suffering the ill effects of these regulations on the development side as well as suffering an erosion of their tax lease.

HOW THE MANUAL WORKS.

Under the Manual, the Corps is the only agency authorized to issue wetlands permits. However, the EPA has, and sometimes exercises, a veto power over Corps decisions. Before 1989, each of the federal agencies involved with Section 404 regulation employed different delineation procedures in deciding whether or not that agency would regulate a given piece of land. Although this joint authority was occasionally confusing, the problem was not severe for the building industry because the Corps, which has consistently been the agency responsible for either issuing or denying permits with respect to wetlands, held a very narrow view of the types of lands subject to its jurisdiction.

The entire section 404 wetlands regulatory permitting process has its genesis in the Rivers and Harbors Act of 1899, and the Corps interpreted its role as one limited to regulating waters associated with navigable waters. Under the controlling Section 404 definition of wetlands, the Corps tended to disclaim jurisdiction. As a result, the vast majority of construction projects were not subject to Corps review and did not need a wetlands permit.

Suddenly, without notice to the building industry, all of this changed when the Corps began to enforce the Manual in Western New York. New procedures were instituted with only minimal provision for phasing in the new regulations, permitting requirements were extended to almost every proposed construction project in the Western New York region, municipalities refused to even review a rezoning proposal until after the Corps gave the "green light," local development agencies began balking at completing already approved financing agreements and worst of all, on-going projects were stopped in their tracks.

The worst example of which I am aware concerning an existing project involves a large subdivision covering 288 acres of land.

This project is being developed by a company not associated with my firm. These 288 acres are not listed as containing wetlands on any maps issued by any federal agencies or by the New York State Department of Environmental Conservation, the state agency responsible for such mapping, and under prior regulations were not subject to federal jurisdiction. Before July, 1990, almost $2,000,000 has been spent by the developer on land acquisition, carrying costs, engineering, and environmental studies for the project. Then the Corps issued a stop-work order. The entire project ground to a halt while a wetlands delineation was completed and reviewed. Now, the Corps has decreed that 70% of the land in the 288 acres of the project contains wetlands and that the entire project will have to be redesigned, re-engineered and restructured.

Another comparable example from my own experience is my Aero Drive Industrial Park development. To develop this industrial park, I acquired about 60 acres of land in 1985, but I needed another parcel to make the site economically practical. While my Company negotiated for that parcel, I recouped the carrying costs on the 60 acres by selling soil from the site as fill to other developers. When the chance to buy the final piece of land arose, I bought it for a total expenditure of $400,000 and sought to develop my 84 acre site. But when I applied for the necessary permits, I found that by selling soil as fill I had inadvertently created a wetland. Now I am told that my 60 acres cannot be used for development. Moreover, the Corps will not let me even clean and grade the site to create a truly viable wetland which could potentially be credited toward compensatory mitigation for another project. The up-shot is that I am stuck with a very expensive 60 acres of land, and I am not permitted to do anything with it. This is just plain wrong.

A HALT IN CONSTRUCTION MEANS LOST REVENUES AND LOST JOBS

As a further example of the impact of the new federal wetlands regulations, I would like to summarize the impact these regulations are having on one local Industrial Development Agency. Simply put, an Industrial Development Agency ("IDA") is a governmental agency authorized by New York State statute and created by a local governmental entity to foster the economic growth within the boundaries of that entity. Local IDAs try to facilitate financing so that companies can create jobs in that locality.

The IDA for the Town of Amherst, a Town north of Buffalo, New York in which my corporate office is located, has assisted over 400 companies since 1979 with loans for the construction or leasing of new office and industrial parks in the Town of Amherst. This has resulted in capital expenditures for these 400 firms in excess of $217 million dollars leading to the creation or retention of 10,420 jobs in the Town. Currently, about 66 companies have indicated the need to expand or build within the

Town during the next two years, representing a potential aggregate increase of 565,000 square feet of building area and resulting in 2,441 new jobs. None of these benefits are likely to occur because of the wetlands regulations. Construction delays and job loss on this scale is significant in Buffalo and Western New York.

A review of a map of the Town of Amherst shows that there are approximately 14,000 remaining acres of undeveloped land in the town. Of this undeveloped land, 6,307 acres contain hydric soils and 5,333 acres contain potentially hydric soils under the Manual definition. This means that a total of 11,640 undeveloped acres out of 14,000 available acres exhibit hydric soils or potentially hydric soils. Thus, 83% of the undeveloped land in the Town of Amherst is subject to the jurisdiction of the Corps and will require a wetlands delineation and a wetlands permit before construction can begin. The result is that it is very unlikely that the Amherst IDA will be able to complete the financing transactions for which it was created because there will be no available land which satisfies the wetlands criteria.

As the pictorial graphic which I have attached to my written comments shows, 66% of the entire land area of the Town of Amherst includes hydric soils or potentially hydric soils. This means that Amherst development will come to a total halt unless these regulations are amended and subsequent regulations are more effectively administered. Even fallow portions of previously developed sites will be subject to wetlands review requirements. As a further example of a presently occuring impact, two on-going projects under construction in the Town's Audubon Construction Park are presently stalled because of Corps directives. These stalled projects represent $8,000,000 in total construction expenditures and 345 net new jobs.

Should the federal wetlands regulations prohibit development on all the remaining acreage subject to Corps jurisdiction, under 1990 present value dollar valuations, the Town of Amherst stands to lose $175,000,000 in assessed valuation of property within the Town. The burden of redistributing the resulting lost tax revenues onto the shoulders of existing property owners in the township would produce a tax increase of $1.80 per $1,000 of assessed valuation. This increased tax burden would come at a time when federal and state budgets are already strained to the breaking point, and local governments are being required to assume an ever greater share of the burden of providing services for its citizens. Consequently, the federal wetlands regulations, if not amended, will ultimately place a burden on everyone in our society, not just the construction industry.

WHAT CAN BE DONE

First, to provide interim relief to the beleagured small businessmen in the building industry, I urge this Committee to follow the lead of its Chairman and urgently promote a moratorium on the implementation of the Federal Manual for Identifying and Delineating Jurisdictional Wetlands and have the Corps temporarily follow its previous definition of a wetlands. Second, I ask this committee to further seek a complete review of the regulations contained in the Manual, with a view toward a complete revision of those regulations. The procedures for wetlands permits must be more precise. The Corps must be compelled to respond to permit applications within a reasonable time. Compensatory mitigation, off-site, must be a viable option unless the wetlands are truly unique and qualitatively valuable. Third, I ask that any revision of the present Manual be specifically required to be subject to the checks and balances already built into the federal Administrative Procedure Act. The intent of this act is to subject any proposed new rulemaking to the scrutiny of an agency's peers and of the regulated citizenry. These protections were totally voided when the regulating agencies issued the Federal Manual for Identifying and Delineating Jurisdictional Wetlands without any provision for internal or public comment. This Committee must play its role in assuring all small businesses that this mistake will not be repeated.

In conclusion, I urge this Committee in the strongest terms to press for a moratorium on the enforcement of the Manual. I ask this Committee to take steps to make sure that the next set of federal wetlands regulations is issued under the proper procedures. Tell these agencies to do it over and to do it right.

I am deeply angered by the insensitivity displayed by the responsible federal agencies to the impact of these regulations on the building and construction industry. This excessive regulation raises the cost of our industrial parks and manufacturing facilities. As a result, American business will lose its competitive advantage to overseas competition. These wetlands regulations should not be the political football they have become. Nor should these regulations be permitted to tie the businessman's hands to the point where he completely loses his competitive edge.

If regulation makes it impossible for businessmen to conduct business profitably, and thereby destroys the free enterprise system, the governmental agencies responsible for this misguided Manual will have no remaining business to regulate. This Committee must do everything within its power to prevent the bankruptcy of the real estate development and construction industries. I am sure that this Committee will carefully examine all of the testimony of these hearings and reach a decision which will safeguard both the environment and the economy of the United States. I thank the Committee for taking time out of its busy schedule to listen to the views of a small businessman. It is the willingness of the United States Congress to listen to people like me which makes this country great.

TESTIMONY OF ROBERT G. SZABO

STATEMENT

OF

THE NATIONAL WETLANDS COALITION

BEFORE THE

HOUSE COMMITTEE ON SMALL BUSINESS

"THE IMPACT OF FEDERAL WETLAND REGULATIONS UPON SMALL BUSINESS"

February 6, 1991

Mr. Chairman and Members of the Committee, my name is Robert G. Szabo and I appear today as counsel to The National Wetlands Coalition. Our Chairman, H. Leighton Steward, who is Chairman and Chief Executive Officer of The Louisiana Land and Exploration Company, would have liked to have appeared before you today, but he had a prior commitment in Louisiana.

The National Wetlands Coalition is an association of landowners and land users, including both private and governmental entities, that have come together with the objective of playing a constructive role in the debate regarding our nation's wetlands policy. The Coalition was founded on September 1, 1989 by a group of twelve entities that included, among others, a municipality, an Alaska Native American corporation, an electric utility company, a developer, a natural gas pipeline company and an oil and gas producer. Today, our membership stands at fifty-four, a list of which is attached.

The National Wetlands Coalition, Mr. Chairman, is particularly pleased that the first hearings in this Congress on this important issue are being conducted by the Small Business Committee. Your committee has jurisdiction over the interests of one of the sectors of our society that is being most directly affected by the current Federal wetlands program. Over the last two years, three events have occurred to make the current Federal wetlands program much more burdensome on small and large businesses alike. First, the enunciation of the laudable goal of "no net loss", although that goal has not yet been defined, has led to a tightening of the regulatory process through numerous individual decisions on individual permit applications. Second, the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, which was agreed upon in January, 1989 without notice or public comment, has, at least in application, greatly increased the amount of our nation's land that is subject to Federal "wetlands" jurisdiction. Finally, the February 7, 1990 Memorandum of Agreement between the Corps of Engineers and the Environmental Protection Agency, which was also adopted without notice or public comment, established "sequencing" as the very strict methodology to be employed by the Corps of Engineers in determining whether an individual "wetlands" (404) permit should be issued. None of the policy judgments subsumed in these three events has been debated by Congress. We hope that these hearings prestage a full debate of these and other wetlands regulatory issues in the 102nd Congress.

The National Wetlands Coalition supports the goal of "no overall net loss of wetlands" so long as this goal remains a goal and does not become a legal or permitting standard and so long as the goal refers to wetlands functions and values rather than to acreage. We believe strongly that the regulatory program should be designed to focus on the unique values and functions of wetlands. Thus, the "no net loss" goal must not become a strict mathematical standard that removes flexibility from the Federal regulatory program, thus limiting the incentives for private land owners and land users to focus private resources on wetlands conservation and enhancement.

The National Wetlands Coalition agrees strongly that many of our nation's wetlands are highly valuable resources that must be conserved and enhanced where they have become degraded. At the same time, any Federal program to protect our nation's wetlands must also observe private property rights and allow for both appropriate economic growth and the provision of essential governmental services, including utility, transportation, health care and educational services.

Mr. Chairman, The National Wetlands Coalition believes that a wetlands permitting program at the Federal level is appropriate. However, we believe that the current Federal program established in 1972 by Section 404 of the Federal Water Pollution Control Act has become overly broad, inflexible and often misdirected. This program that was established by Congress almost twenty years ago to apply primarily to publicly held water resources has been expanded by judicial decision to cover "wetlands", seventy-five percent of which, in the continental United States, are privately owned property. Sometimes the "wetlands" covered by the current, Federal program are of marginal value and appear to the average citizen to be "dry". Permits are not required under the current program for certain activities that adversely affect wetlands and seem to be indistinguishable in wetlands impact from activities that require permits. On the other hand, the public is generally unaware of the permitting requirements that do exist and individuals are increasingly uncooperative when told by the Corps or another Federal agency that they are not allowed to undertake certain forbidden activities on their private property. The result has been increasing Federal prosecutions that are resulting in administrative and civil penalties and, in a growing number of cases, in prison sentences.

Mr. Chairman, the Coalition believes the time has come for Congress to revisit the Section 404 permitting program and to replace the current program with a new program. We believe that the new Federal wetlands program should contain several elements.

A NARROWED DEFINITION OF WETLANDS

The Federal Delineation Manual may accurately state a consensus scientific description of "wetlands". However, the manual does not, we believe, reflect policy judgments that should be made regarding the extent to which Federal jurisdiction should be exercised in this area. We believe that the presence of hydrology at the surface of land for a reasonable period of time should be the dominant factor in determining the presence of a "wetland" and that all three factors, hydric soil, hydrology and a dominance of hydrophitic vegetation, must be present for an area to be designated as a wetland. Moreover, jurisdictional wetlands should not include those lands that are temporarily or unintentionally created as a result of adjacent development activity. One of the ironies of the current regulatory system is that lands may become jurisdictional due to the unintentional acts of man but the creation of wetlands for mitigation purposes is the subject of significant scientific debate.

A WETLANDS CLASSIFICATION SYSTEM BASED ON ECOLOGICAL VALUES:

Under the current 404 program, a marginal wetland is subject to the same permitting standards as is a highly valuable coastal marsh. The Coalition believes that wetlands should be classified into at least three categories based on their ecological values. The highest value wetlands should be those where the public values of the wetland are so high that the public interest requires that virtually no development of the property should be allowed. In such cases, we believe that those persons with interests in the land should be compensated for the fair market value of these interests. The middle valued wetlands should be those where the public values are not as great and some developmental use is appropriate. The lowest category of wetlands should contain those lands that meet the wetlands criteria but contain few, if any, of the functions and values associated with wetlands. We believe these lands should not be subject to a Federal permitting process.

Mr. Chairman, in both the December 21st and January 18th editions of Inside E.P.A., Mr. William Reilly, Administrator of the Environmental Protection Agency, is quoted as considering a classification system for wetlands. Specifically, this publication quotes Mr. Reilly as finding interesting the wetlands classification system that was adopted by the State of Maine on June 13, 1990. A copy of the regulations of the State of Maine establishing this three category classification system is attached.

ADDITIONAL ACTIVITIES IN WETLANDS SHOULD REQUIRE PERMITS:

The current Section 404 program applies only to the "discharge of dredge and fill material" into "waters of the United States", which now includes wetlands. We believe the Federal permitting program should apply to other specific activities that are similar to the discharge of dredge and fill material, including draining or excavating "waters of the United States", including wetlands.

CONSOLIDATION OF PERMITTING RESPONSIBILITY IN ONE AGENCY:

The current Section 404 program is administered by the Corps of Engineers, although Section 404(c) of the Clean Water Act, provides that the Environmental Protection Agency can, on certain specific findings, veto a Corps decision to issue a 404 permit. This split authority, combined with the close consultation role of the United States Fish and Wildlife Service and the National Marine Fisheries Service, has led often to regulatory confusion, inordinate delays, and the waste of resources by both permit applicants and the Federal agencies involved. The Coalition believes that one agency of the Federal government should have sole authority over the wetlands permitting program. We recommend the

Corps of Engineers for this responsibility due to its expertise and the human resources it has deployed around the nation. By comparison, Mr. Chairman, the Environmental Protection Agency has no official stationed in Louisiana, the state with perhaps the highest percentage of wetlands in the continental United States.

A BALANCING TEST TO DETERMINE IF A PERMIT SHOULD BE ISSUED:

The current regulations of the Corps and the EPA, as clarified by the Memorandum of Agreement of February 7, 1990, establishes "sequencing" as the methodology to determine if a wetland permit should issue. Under this methodology, the Corps must first determine if the activity could occur in a place other than the wetland in question. For "non-water dependent activities", such as housing, commercial and industrial development and similar activities, the presumption is that an "alternate site" exists for such activities, whether or not the site is owned by the applicant. If and only if this hurdle can be cleared will the Corps determine if the impact of the proposed activity on the wetland can be "minimized". Once a decision on minimization has been made, then the question of mitigation for unavoidable wetlands impacts is reached.

This methodology has proven to be very effective in stopping certain proposed activities. However, the inflexibility of this approach has sometimes prevented very useful activities on marginal wetlands that has resulted in undue hardships for localities, companies and individuals

The Coalition recommends a balancing test that will require the Corps to consider, in determining if a permit should issue, the ecological impacts and benefits of the proposed activity, the wetlands functions and values that are to be affected, the minimization and compensatory mitigation that can be achieved and the economic and societal benefits of the proposed activity.

INCREASED RELIANCE ON MITIGATION BANKING:

The current wetlands regulatory program, in light of "sequencing", is not sufficiently flexible to achieve the full public benefits of an enlightened mitigation program. Under the current system, a proposed activity may often be rejected, with resulting economic losses, with no resulting significant environmental gains where the wetland in question is of marginal value or is in a state of degradation.

The Coalition recommends a public policy that is sufficiently flexible to allow the use of some wetlands if the permit applicant agrees to enhance, rehabilitate, preserve or even create wetlands of equal or greater functions and values. In an era of increasing limitations on public resources, a policy that harnesses and focuses private sector resources for environmental good would seem to be a preferred policy. Mitigation banking, where wetlands preservation, enhancement or creation projects are established through legally binding instruments, are privately funded and are monitored by governmental agencies, would appear to offer important environmental benefits.

JURISDICTIONAL WETLANDS MUST BE MAPPED PURSUANT TO PUBLIC NOTICE:

Under the current Federal program, permit applicants do not know if the land in question is a jurisdictional wetland until the Corps of Engineers has made a wetlands delineation on the property. This lack of advanced notice of the status of property has led to extreme economic hardship for individuals who have purchased land for residential and commercial development only to find that the land in question is a wetland and no permit is possible under the "sequencing" methodology.

The Coalition recommends that the Congress establish an advanced mapping process for jurisdictional wetlands. This process should always include public notice and should include local hearings at least where wetlands in the highest classification category could occur. The resulting Federal advance mapping classification should be reflected in the property records to ensure maximum notice to the public.

LOCAL WETLANDS MASTER PLANS:

Under the current program, even though a locality may adopt a wetlands management plan that is consistent with Federal law, a

Section 404 permit is still required for the "discharge of dredge and fill material" within the boundaries of the plan. The Coalition recommends that the Federal wetlands permitting program allow for the development of local wetlands master plans that could be certified by the Federal permitting agency as being consistent with the Federal program. In such cases, no Federal wetlands permits should be required within the limits of the master plan so long as the master plan includes a governing body and the proposed activity has been approved by the governing body as being in accordance with the approved master plan.

Mr. Chairman, the Coalition believes that H.R. 5968, the Wetlands Conservation and Management Act of 1990, which was introduced last year by Congressmen Jimmy Hayes (D-La.), Tom Ridge (R-Pa.), Lindsay Thomas (D-Ga.), Billy Tauzin (D-La.), Don Young (R-Al.) and a bipartisan group of fourteen additional cosponsors, is consistent with these recommendations. We are pleased that you and others are working with these members to reintroduce in this Congress a new version of H.R. 5968. The Coalition looks forward to working with you to achieve in this Congress meaningful reform of this important, but flawed, Federal environmental program so that the nation may have an efficient and effective national wetlands program.

Thank you, Mr. Chairman.

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THE NATIONAL WETLANDS COALITION

FEBRUARY 4, 1991

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STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND QUALITY CONTROL

NATURAL RESOURCES PROTECTION ACT
& WATER QUALITY CERTIFICATION

CHAPTER 310: EFFECTIVE DATE JUNE 30, 1990

SECTION 1. WETLANDS PROTECTION ADOPTED 6/13/90

A. PREAMBLE

The Legislature has found that the State's freshwater and coastal wetlands are resources of state significance, that these resources have great scenic beauty and unique characteristics, unsurpassed recreational, cultural, historical, and environmental value of present and future benefit to the citizens of the State, and that uses are causing the rapid degradation and, in some cases, the destruction of these critical resources, producing significant adverse economic and environmental impacts and threatening the health, safety and general welfare of the citizens of the State. The Legislature has also found that the cumulative effect of frequent minor alterations and occasional major alterations of these resources poses a substantial threat to the environment and economy of the State and its quality of life. 38 M.R.S.A. Sec. 480-A.

In recognition of the important roles of wetlands in our natural environment, the Board of Environmental Protection supports the nation-wide goal of no net loss of wetland functions and values. In some cases, however, the level of mitigation necessary to achieve no net loss of wetlands will not be practicable, or will have an insignificant effect in protecting the State's wetlands resources. In other cases, the preservation of unprotected wetlands or adjacent uplands may achieve a greater level of protection to the environment than would be achieved by strict application of a no net loss standard through creation of replacement wetlands. Therefore, the Board recognizes that a loss in wetland functions and values may not be avoided in every instance.

The purpose of this rule is to ensure that the standards set forth in Sec. 480-D of the Natural Resources Protection Act, Sec. 464, Classification of Maine Waters and Sec. 465, Standards for Classification of Fresh Surface Waters are met by applicants proposing regulated activities in, on, over or adjacent to a freshwater or coastal wetland.

B. APPLICABILITY

1. This rule applies to coastal wetlands, great ponds and freshwater wetlands as defined in 38 M.R.S.A. Sec. 480-B of the Natural Resources Protection Act, and floodplain wetlands of any river, stream or brook.

2. Wetland boundaries shall be delineated using the methods described in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, an inter-agency cooperative publication of the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service and the U.S.D.A. Soil Conservation Service, January 10, 1989.

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To M. Katterfield | From Chuck Kellogg

3. This rule shall not apply to activities which are exempted from permit requirements under 38 M.R.S.A. Section 480-Q, nor to activities which qualify under the provisions of DEP Chapter 305, Permit by Rule.

4. This rule shall not apply to any application pending and deemed complete by the Department as of the adoption date of this rule.

C. DEFINITIONS

1. Aquatic Vegetation. Plants that grow principally on or below the surface of the water for most of the growing season in most years.

2. Coastal Wetlands. All tidal and subtidal lands, including all areas below any identifiable debris line left by tidal action; all areas with vegetation present that is tolerant of salt water and occurs primarily in a salt water or estuarine habitat; and any swamp, marsh, bog, beach, flat or other contiguous lowland which is subject to tidal action during the maximum spring tide level as identified in tide tables published by the National Ocean Service. Coastal wetlands may include portions of coastal sand dunes (38 M.R.S.A. Sec. 480-B(2)).

3. Compensation. Replacement of a lost wetland function with a function of equal or greater value.

4. Creation. An activity bringing a wetland into existence at a site where it did not formerly occur for the purpose of compensation.

5. Emergent Marsh Vegetation. Plants that are erect, rooted and herbaceous, and that may be temporarily to permanently flooded at the base but do not tolerate prolonged inundation of the entire plant; e.g., cattails, saltmarsh cordgrass.

6. Enhancement. An activity increasing the value of one or more functions in an existing wetland.

7. Floodplain Wetlands. The lands adjacent to a river, stream or brook which are inundated with flood water during a 100-year flood event and which under normal circumstances support a prevalence of wetland vegetation typically adapted for life in saturated soils.

8. Freshwater Wetlands. Freshwater swamps, marshes, bogs and similar areas which are:

A. Of 10 or more contiguous acres, or of less than 10 contiguous acres and adjacent to a surface water body, excluding any river, stream or brook, such that in a natural state, the combined surface area is in excess of 10 acres;

B. Inundated or saturated by surface or ground water at a frequency and for a duration sufficient to support, and which under normal circumstances do support, a prevalence of wetland vegetation typically adapted for life in saturated soils; and

C. Not considered part of a great pond, coastal wetland, river, stream or brook.

These areas may contain small stream channels or inclusions of land that do not conform to the criteria of this subsection (38 M.R.S.A. Sec. 480-B(4)).

9. Freshwater Wetlands Adjacent to a Surface Water Body. Freshwater wetlands contiguous with a surface water body, excluding rivers, streams and brooks; and freshwater wetlands which are separated from the water body by a berm, causeway, or similar feature less than 100 feet in width, and which have a surface elevation at or below the normal high water line of the water body.

NOTE: This definition is included to clarify what is meant by "adjacent" in the definition of "freshwater wetlands" above. It is to be referenced in determining if a wetland is subject to State regulation, and should not be confused with the classification of wetlands in Section 1(D), below.

10. Functions. The roles wetlands serve which are of value to society or the environment including, but not limited to, flood water storage, flood water conveyance, ground water recharge and discharge, erosion control, wave attenuation, water quality protection, scenic and aesthetic use, food chain support, fisheries, wetland plant habitat, aquatic habitat and wildlife habitat.

11. Great Ponds. Any inland bodies of water which in a natural state have a surface area in excess of 10 acres and any inland bodies of water artificially formed or increased which have a surface area in excess of 30 acres (38 M.R.S.A. Sec. 480-B(5)).

12. Health or Safety Project. An activity undertaken to protect or improve public health and safety, or to lessen the risk of injury in a public area through the modification of existing or potentially hazardous conditions. Public health projects and safety projects include, but are not limited to, measures taken to provide or enhance a potable public water supply, to provide fire protection, to control flooding, to provide for safe disposal of solid waste and wastewater, and to construct, upgrade, or repair public roads, bridges, airports, railroads and other transportation facilities.

13. Maintenance. Activities required to assure continuation of a wetland or the accomplishment of project goals after a restoration or creation project has been technically completed, including, but not limited to, water level manipulations and control of non-native plant species.

14. Mitigation. Actions taken to off-set potential adverse environmental impact. Such actions include the following:

a. Avoiding an impact altogether by not taking a certain action or parts of an action;

b. Minimizing an impact by limiting the magnitude or duration of an activity, or by controlling the timing of an activity;

c. Rectifying an impact by repairing, rehabilitating, or restoring the affected environment;

d. Reducing or eliminating an impact over time through preservation and maintenance operations during the life of the project; and

e. Compensating for an impact by replacing affected resources or environments.

15. Mitigation Banking. Wetland restoration, enhancement, preservation or creation for the purpose of providing compensation credits for future wetland degradation or destruction.

16. Normal High Water Line. That line along the shore of a great pond, river, stream, or brook or other nontidal body of water which is apparent from visible markings, changes in the character of soils due to prolonged action of the water or from changes in vegetation and which distinguishes between predominantly aquatic and predominantly terrestrial land. In the case of great ponds, all land below the normal high water line shall be considered the bottom of the great pond for the purposes of this article (38 M.R.S.A. Sec. 480-B(6)).

17. Persistence. The overall ability of a wetland to be self-sustaining, to continue to exist as a wetland, and to serve wetland functions over an indefinite period of time, although its vegetation, soils, hydrologic characteristics and precise boundaries may change.

18. Practicable. Available and feasible considering cost, existing technology and logistics based on overall project purposes.

19. Preservation. The maintenance of an area so that it remains in a natural or undeveloped condition. Preservation measures include, but are not limited to, conservation easements and land trusts.

20. Project Vicinity. The area within a radius of ten miles of a wetland alteration site.

21. Restoration. An activity returning a wetland from a disturbed or altered condition with lesser acreage or fewer functions to a previous condition with greater wetland acreage or function.

22. River, Stream or Brook. A channel between defined banks including the floodway and associated floodplain wetlands where the channel is created by the action of the surface water and characterized by the lack of upland vegetation or the presence of aquatic vegetation and by the presence of a bed devoid of top soil containing water-borne deposits on exposed soil, parent material or bedrock (38 M.R.S.A. Sec. 480-B(9)).

NOTES: a. Below the head of tide, a river, stream or brook subject to tidal action is considered to be coastal wetland; and b. A man-made channel is not considered to be a stream or brook unless it is created to replace a previously existing natural channel or exhibits properties of a natural stream such as the presence of fish.

23. Utility Line. A pipe, cable or wire, along with appurtenant facilities, used to transmit or transport a commodity, service or waste product including, but not limited to, water, oil, natural gas, electricity, communications and sewage. Appurtenant facilities include, but are not limited to, supporting structures such as poles, pump stations, storage tanks and cleared rights-of-way. Not included as part of a utility line are buildings, generating stations and transmission substations.

24. Water Dependent Use. A use which cannot occur without access to surface water.

NOTE: Examples of uses which are not water dependent include, but are not limited to, boat storage, residential dwellings, hotels, motels, restaurants, parking lots, retail facilities and offices.

25. Wetland Value. The importance of a wetland with respect to the individual or collective functions it provides.

NOTE: A wetland may have different values for different functions. For example, a wetland may have a high value for wildlife habitat, but little value for flood storage.

D. CLASSIFICATION OF WETLANDS

For the purposes of this chapter, wetlands shall be classified by the Department as Class I, Class II or Class III as follows:

1. Class I. A Class I wetland has one or more of the following characteristics:

a. Is a coastal wetland or great pond;

b. Contains endangered or threatened plant species on the Official List of Endangered and Threatened Plants of the State of Maine, based on documentation of current or past observations of occurrence;

c. Contains a palustrine (freshwater wetland) natural community listed on the Maine Natural Community Classification and ranked S1 or S2 (20 or fewer documented occurrences in Maine); or

d. Contains any of the following areas, whether or not mapped: Habitat for species appearing on the official state or federal lists of endangered or threatened species where there has been evidence of the occurrence of the species; high and moderate value deer wintering areas and travel corridors as defined by the Department of Inland Fisheries and Wildlife; high and moderate value waterfowl and wading bird habitat, including nesting and feeding areas as defined by the Department of Inland Fisheries & Wildlife; critical spawning and nursery areas for Atlantic sea run salmon as defined by the Atlantic Sea Run Salmon Commission; and shorebird nesting, feeding and staging areas and seabird nesting islands as defined by the Department of Inland Fisheries and Wildlife.

NOTE: The above list is consistent with the definition of Significant Wildlife Habitat in 38 M.R.S.A. Sec. 480-B(10), except that the areas do not have to be mapped. This provision to not require mapping is consistent with PL 1990, c. 838, Sec. 4. since the habitat areas must all be contained within another protected natural resource; i.e., wetlands.

2. Class II. A Class II wetland does not contain any characteristics of a Class I wetland, but does contain one or more of the following characteristics:

a. Is located within 250 feet of a coastal wetland;

b. Is located within 250 feet of the normal high water line, and within the same watershed, of any lake or pond classified as GPA under 38 M.R.S.A. Sec. 465-A;

c. Is located within 250 feet of the normal high water line, and is contiguous to, a river, stream or brook, including any impoundments not classified as GPA;

i. The wetland alteration will not disturb the threatened or endangered species; and

ii. The overall project will not affect the continued use or habitation of the site by the species,

F. WETLAND COMPENSATION STANDARDS

Where wetland compensation is required, the following standards shall apply:

1. Expertise. The applicant shall demonstrate sufficient scientific expertise to carry out the proposed compensation work.

2. Financial Resources. The applicant shall demonstrate sufficient financial resources to complete the proposed compensation work, including subsequent monitoring and corrective actions.

3. Persistence. For restoration, enhancement and creation projects, on the basis of an updated functional assessment, a minimum of 85% of the compensation wetland area must successfully replace the altered wetland's functions after a period of three years. If this level is not achieved, or if evidence exists that the compensation site is becoming less effective, the Department may require additional monitoring and corrective action in order to achieve the compensation ratio as originally approved.

4. Monitoring. The applicant shall set forth a plan for monitoring the restored or created wetland over a minimum of three years, which shall include contingency plans for replanting, contouring or other corrections if the project fails to meet project goals during that time.

G. MITIGATION BANKING

1. Public and private entities may apply to the Department to undertake wetlands compensation projects for the purposes of offsetting one or more alteration projects proposed at that time or in the future. The ratios set forth in the Standards will be added together to determine the amount of credit required for any proposed alteration.

2. Compensation work shall take place in the same watershed or in the project vicinity of the future alteration work, if possible. Otherwise, the work shall occur as close to the wetland alteration site or sites as possible.

3. Projects to be used for compensation credit must be functioning as proposed in the mitigation banking application, as demonstrated by an updated functional assessment in order to qualify as offsetting a proposed activity.

4. No entity may use mitigation banking to compensate for more than 25 acres of wetland alteration in any one year period.

5. Applicants will be required to show a combination of expertise, experience and resources sufficient to undertake and maintain land placed in mitigation banking.

NOTE: More than one classification may apply to the same wetland, depending on the distance to a water body. As an example, only that portion of a wetland that is within 250 feet of the normal high water line of a coastal wetland shall be treated as Class II wetland, unless it contains other Class I or Class II attributes.

d. Contains at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water during most of the growing season in most years;

e. Is a bog consisting of peatland dominated by ericaceous shrubs (heath family), sedges and sphagnum moss and usually having a saturated water regime; or

f. Is a floodplain wetland.

3. Class III. A Class III wetland does not contain any characteristics of a Class I or Class II wetland.

NOTE: Examples of typical Class III wetlands include wet meadows and wooded swamps which are not contiguous to any protected natural resource.

E. STANDARDS

The following standards shall apply to all applicable projects:

1. Avoidance. No activity which would cause a loss in wetland area, functions and values shall be permitted if there is a practicable alternative to the project which would be less damaging to the environment.

Applications for all activities must either:

a. provide an analysis of alternatives (see Section 1(I)) in order to demonstrate that a practicable alternative does not exist; in Class I or Class II wetlands, projects for which no practicable alternative may exist shall be limited to those necessary for:

i. Health and safety;

ii. Crossings by road, rail or utility lines;

iii. Water dependent uses;

iv. Expansion of a facility or construction of a related facility which cannot reasonably be located elsewhere because of the relation to the existing facility; and

NOTE: This provision is not intended to allow the expansion into wetlands of new facilities built since the adoption of this rule.

v. Mineral excavation [illegible]

b. demonstrate that there will be no meaningful loss of the wetland's functions and values based on the nature of the activity, including its location, dimensions, amount of fill or drainage, timing, implementation procedures, and any other efforts proposed for reducing the project's effect on the wetland.

NOTE: The Department may require a functional assessment of the wetland, regardless of the wetland's classification, as part of the demonstration in Section 1(E)(1)(b).

2. Minimal Alteration. The amount of wetland to be altered shall be kept to the minimum amount necessary.

3. Compensation.

a. Assessment. A functional assessment of the wetlands to be altered shall be conducted in accordance with Section 1(I) for all activities in Class I and II wetlands, and for all activities which alter more than 20,000 square feet of Class III wetlands (including other activities undertaken after the adoption date of this rule in the same wetland), except as provided in Section 1(E)(3)(f), below.

b. When required. Compensation shall be required whenever wetland functions will be lost or degraded due to the project, as identified by the functional assessment, or by the Department's evaluation of the project.

NOTE: Compensation will not be required for alterations of less than 20,000 square feet in Class III wetlands unless the Department identifies wetland functions that will be lost or degraded.

c. Where required. Compensation shall take place on or adjacent to the project site when possible. If not possible, compensation shall occur either within the same watershed as the proposed alteration, or within the project vicinity, except as allowed for Mitigation Banking (Section 1(G)).

d. How to compensate. Compensation shall replace lost wetland functions. Preference for compensation shall be given as follows:

i. Restoration of degraded wetlands;

ii. Enhancement of existing wetlands;

iii. Preservation of existing wetlands or adjacent upland; this is an option only where the applicant can demonstrate that restoration or enhancement are not feasible, that the site to be preserved is valuable ecologically and provides functions that are similar, or of equal or greater value as those of the wetland to be altered, and that the site might otherwise be degraded by an unregulated activity.

iv. Creation of wetland from upland; because of the high level of uncertainty regarding the success of wetland creation, it is a last resort, available only when other methods of compensation are not practicable and the applicant can demonstrate that the creation project will replace the functions of the wetland to be altered.

e. Compensation amounts. The amount of compensation in terms of area required to replace lost functions depends on a number of factors including the size of the alteration activity, the functions of the wetland to be altered, the method of compensation to be used, and the characteristics of the compensation site. Compensation areas shall meet the following minimum requirements, unless the Department determines that a higher ratio is necessary to compensate for lost functions:

i. 1:1 for restoration, enhancement or creation in Class II or Class III wetlands;

ii. 2:1 for restoration, enhancement or creation in Class I wetlands;

iii. 8:1 for preservation in all wetland classes.

f. Exemptions. Neither a functional assessment, nor compensation is required for the following:

i. In Class I, minor alterations of coastal wetlands which do not cover marsh vegetation, do not fill more than 500 square feet of intertidal or subtidal area, and have no adverse effect on marine resources as determined by the Department of Marine Resources, nor on wildlife habitat as determined by the Department of Inland Fisheries & Wildlife;

ii. In Class I, minor alterations of great ponds which do not place any fill below the normal high water line, except as necessary for shoreline stabilization projects, and have no adverse effect on aquatic habitat as determined by the Department of Inland Fisheries & Wildlife or the Department of Environmental Protection.

iii. In Class II and Class III, alteration work along existing transportation routes for the purposes of public safety which affects less than 20,000 square feet of wetlands for the total project;

iv. In Class II and Class III, alteration of wetlands for a road, rail or utility line crossing of a river, stream or brook for a distance of up to 100 feet from the normal high water line on both sides, measured perpendicular to the thread of the stream.

v. In all classes, minor alterations which the Department determines will have no effect on wetland functions and values.

4. No Unreasonable Impact.

a. Even if a project has no practicable alternative and has minimized the wetland alteration to the fullest extent possible, the Department of Environmental Protection shall deny an application if it finds that the activity will have an unreasonable impact on the wetland. "Unreasonable impact" means that one or more of the standards of the Natural Resources Protection Act contained in 38 M.R.S.A. Sec. 480-D will not be met. In making this determination, the Department may consider the following:

i. The area of wetland that will be affected by the alteration, including wetland beyond the physical boundaries of the project;

ii. The functions and values provided by the wetland;

iii. The level of uncertainty regarding the proposed mitigation; and

iv. Cumulative effects of frequent minor alterations of the wetlands resources.

b. Activities shall not occur in, on or over any Class I wetland containing threatened or endangered species unless the applicant demonstrates that:

H. TERMS AND CONDITIONS

The Board may, as a term or condition of approval, establish any reasonable requirement to ensure that the proposed development will meet the standards of Title 38 M.R.S.A. Sec. 480-D, such as:

1. Design changes to help insure the success of the project;

2. Buffer requirements;

3. Project supervisory requirements;

4. Monitoring requirements;

5. Mid-course correction or maintenance capability; and

6. Bonding or other assurances of continued fiscal capability.

I. APPLICATION REQUIREMENTS

In addition to broader information required for a Natural Resources Protection Act permit and Water Quality Certification, an application for a wetland alteration activity shall contain the following information, unless the Department determines that more or less information is needed to evaluate a specific project, based on the nature of the alteration proposed:

1. A report which analyzes whether a practicable alternative to the wetland alteration exists. The report must address why the project cannot be completed by:

    a. Utilizing, managing or expanding one or more other sites that would avoid the wetland impact;

    b. Reducing the size, scope, configuration or density of the project as proposed, thereby avoiding or reducing the wetland impact; or

    c. Developing alternative project designs, such as cluster development, that avoid or lessen the wetland impact.

2. A report which contains the following:

    a. A plan at a scale of one inch equals 100 feet, that shows two foot contour intervals, existing wetland boundaries, the area of wetland to be altered, and project dimensions;

    b. Existing wetland characteristics including water depths, vegetation and fauna;

    c. Where required by Section 1(E), a functional assessment conducted by a qualified professional on the wetland to be altered which analyzes the wetland's value based on the functions it serves and how the wetland will be affected by the proposed alteration. The Wetland Evaluation Technique (WET) methodology, published by the U.S. Army Corps of Engineers is one acceptable methodology. Other comparable assessment techniques may be accepted by the Department provided the applicant submits documentation of how the methodology was developed, how the wetland functions and values are determined, and how much field testing the technique has undergone; and

d. Photographs of the wetland to be altered which show its characteristics.

3. A description of the overall proposed activity with particular reference to its impact on the wetland, including the precise location of the activity, its dimensions, the amount of fill (if any proposed), any proposed drainage, the timing and procedures proposed for the alteration, and any efforts proposed for reducing impacts.

4. A plan for the proposed compensation work, if any, including a topographic map at the scale of one inch equals 100 feet showing two foot contour intervals and proposed wetland boundaries. This plan shall also include:

a. Proposed boundaries and characteristics of the compensation site, including elevation, sources of water, and proposed vegetation;

b. A narrative describing the specific goals of the compensation work in terms of particular wetland functions and values. These goals shall be related to those of the original wetland;

c. A narrative describing the available literature or experience to date (if any) for carrying out the compensation work;

d. Proposed implementation and management procedures for the compensation work;

e. A description of the short-term and long-term sources of water for this wetland, including the water quality of these sources;

f. Plans for re-planting, including a description of plant species, sizes and sources of plant material, as well as how, when and where seeding or planting will take place;

g. Proposed buffers or protective measures such as sediment control methods;

h. Plans for monitoring the compensation work, showing capability for mid-course corrections; and

i. Plans, if any, for control of non-indigenous plant species.

5. For compensation projects involving restoration, enhancement, or creation of wetland areas, a deed restriction shall be imposed, or a conservation easement conveyed to a qualified holder, which requires maintenance of the area as a wetland and authorizing the Department to act as an enforcing agent. Therefore, regardless of the size of the compensation area, any future alterations in, on, or over it must be approved by the Department.

6. For compensation projects involving preservation of wetlands or adjacent uplands, a conservation easement shall be conveyed or deed restriction imposed so that the parcel will remain undeveloped in perpetuity. The restriction shall list the Department as an enforcing agent for this condition. These areas may be deeded to local or state conservation groups or agencies, but any land management practices must be approved by the Department.

Note: The applicant is strongly encouraged, but not required to meet with the Department staff in order to establish the wetland's classification and the overall adequacy of the proposal before drafting actual plans. The applicant is encouraged to submit a sketch plan of the site including:

AMERICAN FARM BUREAU FEDERATION
225 TOUHY AVENUE • PARK RIDGE • ILLINOIS • 60068 • (312) 399-5700 • FAX (312) 399-5896
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STATEMENT OF THE AMERICAN FARM BUREAU FEDERATION TO THE HOUSE SMALL BUSINESS COMMITTEE WITH REGARD TO WETLANDS PROTECTION

Presented by
Wayne Ashworth, President, Virginia Farm Bureau Federation

February 6, 1991

STATEMENT OF THE AMERICAN FARM BUREAU FEDERATION TO THE HOUSE SMALL BUSINESS COMMITTEE WITH REGARD TO WETLANDS PROTECTION

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Wayne Ashworth, President, Virginia Farm Bureau Federation

February 6, 1991

Good Morning, My name is Wayne Ashworth. I am president of the Virginia Farm Bureau and a member of the American Farm Bureau Federation board of directors. I appreciate the opportunity to be with you this morning to share Farm Bureau's concerns about this important topic.

Virginia is blessed with a wide variety of soil types and wildlife habitats. From the mountains, to the piedmont, to the coastal plain.

It is here in the coastal plain that the issue of wetlands regulation is having its greatest impact.

Three factors combine to cause conflict:

The first is the common occurrence of hydric soils.

Secondly, these hydric soils are our most agriculturally productive soils routinely producing better than 150 bushels of corn per acre. Much of this land has been cleared, ditched and drained over a 200-year period. In fact, the federal government encouraged and cost-shared in this effort up until 1986.

The third factor involves population distribution. Since much of the nation's population lives within 50 miles of the coastline, the greatest demand for development is in the coastal plain, often in areas of hydric soil. This, in turn, may add substantial value to farmland for development.

These three factors did not cause much of a problem prior to January, 1989. Until then, the U.S. Army Corps of Engineers had limited its regulation to true marshes, swamps and bogs. These wetlands are generally recognized as valuable. Virginia has tens of thousands of acres of both salt and fresh water marshes and swamps where we find cyprus trees, lily pads and other water-dependent plants. Protection of these resources is reasonable and desirable in the eyes of most farmers.

However, in January of 1989, the four federal agencies involved in wetlands regulation--EPA, the Corps of Engineers, SCS, and the U.S. Fish and Wildlife Service adopted the Federal Manual for the Delineation of Jurisdictional Wetlands. This was done without notice and opportunity for public comment or congressional oversight. Nevertheless, this new manual brought 60 million acres of cropland under regulation as waters of the United States.

It did this by expanding the definition of a wetland. The manual set out three criteria that land must have to be defined as a wetland:

1. It must have hydric soils.

2. It must have a water table within 18 inches of the surface for seven consecutive days during the growing season. No longer do you have to get your feet wet walking in wetlands! In Virginia, it resulted in the growing season defined as beginning February 1. This is basically the middle of winter and in eastern Virginia and much of the country you will often find water within 18 inches of the surface through March.

3. And it must have wetlands vegetation except in "disturbed areas." The manual calls farm fields "disturbed areas." In "disturbed areas" the manual assumes that vegetation could grow there. Also, the list of wetlands vegetation includes not only water-dependent plants such as cattails, lily pads and cyprus trees, but also includes water neutral and upland plants such as certain oaks, maples, and gum trees as well as loblolly pine!

There now exists a federal definition of wetlands that includes a great deal of land that no one would ever recognize or consider to be a wetland. In Virginia and around the country, this is having a profound adverse effect on farmland values and overall economic growth. Let me cite two examples of problems that farmers are having with Section 404:

First, Section 404f of the Clean Water Act allows normal farming practices to continue on "farmed wetlands" but prohibits the conversion to any other use without a permit. The intent of this section was to allow on-going farming operations to function normally without the need for a multitude of permits. However, it is clear that field offices are interpreting this provision in an increasingly narrow manner, and eroding the earlier intent of Congress.

Second is the issue of "prior converted cropland." This is land that has been drained and no longer exhibits any wetland values or functions. The 1989 delineation manual suddenly caused this land to be classified as a jurisdictional wetland because it had a hydric soil. That action effectively stripped farmland of its development value. Farmers who had, for years, put up with encroaching suburbia, who had kept farming through the lean years only because they thought their land was an appreciating asset saw their net worth wiped out with the stroke of a bureaucrat's pen. This affected their ability to borrow operating money, it destroyed their retirement security as well as their ability to meet other financial crises.

In a welcome decision last fall, the Corps of Engineers revised its interpretation and declared that prior converted cropland will no longer be regulated under Section 404. In so doing, we hoped they had recognized our basic argument that prior converted cropland no longer functions as a wetland and should not be subject to 404 jurisdiction. However, it is evident that they still do not intend to implement this in a common-sense and rational manner.

To correct these and other problems, several changes to Section 404 of the Clean Water Act are needed. Among them are:

1. A definition of exactly what kind of wetlands constitute waters of the United States. We believe the current wetlands delineation manual is seriously flawed and should be opened for a formal rulemaking with full public comment. Specifically,

   *Wetlands should be saturated at the surface for a period of at least 21 consecutive days during the growing season in years of average rainfall in at least half the number of years records are available. (Current interpretation is saturation within 18 inches of the surface for a period of 7 days.)

   *The growing season should be defined as the historical average of frost free days within a particular geographic area.

   *A wetland determination should require that obligate plant species (occurring at least 99 percent of the time in wetlands) and facultative wetland plant species (occurring at least 66 percent of the time in wetlands) constitute the majority of vegetation on site.

2. A specific exclusion from regulation for all prior converted farmland.

3. A clear definition of what constitutes normal farming practices. We suggest allowing land grant colleges and the extension service to establish a list of normal farming practices that allow for regional and agronomic variations

4. A recognition of private property rights and a process for compensating landowners for lost use of their property. The reality that most of these resources are on private property must be addressed if society now views them to be important. The fact that they may be rural open space does not remove the obligation to compensate landowners.

5. A system of classifying wetlands that recognizes that not all wetlands have the same value or provide the same functions.

Finally, under the current regulatory interpretation of the president's goal of "no net loss," we have a new federal regulatory program that detrimentally places wetlands above all other natural resources or economic uses. There is no balance. Why not no net loss of hardwood forest, desert, prime farmland or beaches? Natural resource policy should seek to balance all competing ecological, social and economic needs in a given situation. It should not occur blindly without regard to the values of the wetland, the proposed project or the alternative site impacted.

Thank you, I look forward to answering any questions you may have.

RECOMMENDATIONS FOR IMPROVING IMPLEMENTATION OF THE SECTION 404 PROGRAM

Testimony of

Dr. Jon Kusler
Executive Director
Association of State Wetland Managers

On behalf of the Association of State Wetland Managers, I would like to offer nine principal suggestions for improving the implementation of the Section 404 program as it applies to some of the problem contexts brought to the attention of this committee. The views expressed are my own although they are based upon many discussions with our state members. Most of these state members are the wetland professionals in charge of state wetland regulations or state water quality/wetland regulations. All coastal states have adopted some sort of coastal wetland protection regulations. Seventeen states have also adopted freshwater wetland protection regulations. However, both the coastal and freshwater programs differ in terms of wetland definitions, coverage, regulated activities, standards for permits, and enforcement mechanisms.

The Association

The Association of State Wetland Managers is a national 501(c)(3) non profit established to assist the states in better applying science to wetland regulatory and management efforts. Most of our state members are the staff professionals from regulatory and programs. We have, in addition, many environmental group and consultant members.

The Association has conducted a wide variety of projects and workshops dealing with technical subjects such as wetland evaluation, wetland hydrology, urban wetlands, wetlands and river corridor management, wetland restoration and creation, implementation of the no net loss standard, and strengthening state programs. An example of one of our publications is provided to the committee--Wetland Creation and Restoration: The Status of the Science. This book has a forward by Senator George Mitchell.

Basis for Testimony

The following testimony draws more specifically upon a number of workshops and training activities of the Association during the last two year. In 1989 and 1990 our Association held workshops and national symposia in Charleston, Buffalo, Washington, D.C., Miami Beach, Jackson, Mississippi, and the Chicago area involving approximately 2000 professionals. In addition, we cooperated on two others in Portland, Oregon and Concord, New Hampshire involving an additional 850 individuals.

For example, in November 1989 we conducted a two day state meeting in Washington, D.C. concerning state implement of the no net loss standard. We cooperated on a second state meeting concerning no net loss several weeks later in Concord, New Hampshire.

In September 1990 we hosted a 4 1/2 day wetland delineation training program on the federal wetland Delineation Manual at a site north of Chicago. Twenty three states attended.

Later in September 1990 we hosted a two day meeting on federal/state coordination in Washington, D.C.

I personally attended one day of the public information sessions held by the State of New York in Buffalo which, I believe, led to this hearing. I had a chance not only to talk to many participants but spend several days in the field looking at wetlands.

BACKGROUND

1. **A dilemma faced by the states.** States face a dilemma with regard to the Section 404 program. Overall, state wetland professionals strongly support most aspects of the Section 404 program and the no net loss goal for protecting and enhancing the nation's wetlands and waters. On the other hand, the states also believe that there are problems with Section 404, particularly as the program is applied to **certain highly altered wetlands agricultural and urban wetlands**. These problems are described in greater depth in the accompanying paper. The question, then, is how to improve the implementation of the Section 404 program (or for that matter, other wetland regulatory programs) to both achieve protection of waters of the U.S. and, at the same time, address the problems in order to provide more equitable and reasonable treatment of landowners.

Unfortunately, some of the problems with the Section 404 program are due to the complexity and technical difficulties in regulating wetlands. There are no easy solutions at any level of government because of these complexities which defy simplist, blanket approaches. For example, amendment of the federal wetland definition used for Section 404 regulatory purposes, decoupling the delineation manual from the regulations, or excluding many areas from individual permitting requirements would reduce burdens on landowners and address some of the present complaints. But this would also exclude areas potentially important to the maintenance and restoration of the quality of the waters of the U.S. at a time when there is a growing scientific concensus concerning the value of wetlands in protecting water quality and reducing certain pollutants. It would also move counter to the efforts by Congress and the states to address nonpoint sources of pollution with increasingly limited federal and state budget dollars.

2. **Overall state support for the Section 404 program and associated wetland protection intiatives.** More specifically, and it may surprise some of the committee members, representatives from the states at our meetings over the last two years have expressed overall strong support for most of the federal Section 404 program. There has been some dissent and the support has been qualified in many instances. Nevertheless, we have found:

--Quite strong general support for the Section 404 wetland regulatory program in backing up state programs and directly regulating certain types of wetlands;

--Overall support for the President's no net loss goal;

--Overall qualified support for the federal wetland delineation manual (see the accompanying paper);

--Overall support for the M.O.A. between the Corps of Engineers and E.P.A. including the sequencing options, the water dependency, and the mitigation requirements.

There is a general feeling among state staff that the Section 404 program has been increasingly effective for most of the larger coastal, estuarine, and freshwater wetlands adjacent to water bodies and is working quite well in these contexts.

3. **Problems perceived by the states, particularly with regard to certain highly altered agricultural and urban wetlands.** On the other hand, the state program personnel we are dealing with, agree that there are problems with the Section 404 program as it is being administered, particulary with regard to altered freshwater wetlands including agricultural/wetlands and some substantially altered urban wetlands like those encountered in the Buffalo area.

I emphasize that many (but certainly not all) of the major problems have been associated with altered freshwater wetland systems which prior to adoption of the delineation manual and the Memoradum of Agreement (M.O.A.) were not as stringently regulated by the Corps of Engineers as a matter of administrative policy although these lands could have regulated under existing powers.

These problems include:

--Lack of notice to landowners as to whether or not they are in a wetland through mapping, readily observable vegetative characteristics, or other easily applied criteria;

--Complexity in the Delineation Manual and difficulties in applying the Manual to these lands;

--Lack of certainty in Corps policies including water dependency, sequencing, and compensation requirements when applied to highly altered wetlands;

--Lack of Corps staffing and budgets to permit rapid landowner assistance in wetland boundary delineation and permitting;

--Lack of tailoring of the policies to specific, complicated factual circumstances; and

--Duplication in permitting between the federal government, states and local governments.

RECOMMENDATIONS FOR ADDRESSING PROBLEMS

Nine major recommendations for improving the existing situation are provided below. The recommendations are extracted from a more detailed paper I prepared several several weeks ago for our Association Board of directors and staff. See enclosure. Recommendations include:

1. Relatively simple materials need to be prepared which explain the Manual and its application, particularly with regard to altered lands. Even if technically sound, the Manual is intimidating and complicated. Simple explanations of the Manual area are needed to make clear where the wetland definition and the Manual do not apply and help them understand the Manual where it may or does apply.

2. Relatively simple materials need to be prepared with regard to how the Manual is to be actually used including materials addressing the following questions (note, this is just a preliminary list):

--In what situations should the various alternative methods set forth in the Manual be applied? There is no clear guidance in the Manual on this point and there are reports that some regulators and consultants are always "opting" for the most comprehensive and expensive approaches due to lack of clear guidance on acceptable approaches, fear or liability, or (in the case of consultants) the desire to maximize profits.

--Can I apply or how do I get government help in applying the Manual to my land and deciding whether I even need a Section 404 permit?

--Where can I find a consultant?

--What are the qualifications needed in a consultant?

--What shoud be required of a consultant?

--How much should be paid to a consultant for a delineation?

3. Maybe even more important than the first and second steps, actual education and training are needed for various groups with regard to the Manual and how it is to be used. This should include not only field training but much broader educational efforts for administrators and executives, nonprofits, landowners, bankers, etc. This might take the form of videos (apparently one has already been prepared by the Corps), slide shows, public television programs, seminars, workshops, etc.

4. Refinements should be developed by the Corps and E.P.A. with regard to the written policies and permitting requirements linked to the Manual, particularly with regard to various types of altered lands. This may require going back to basics in terms of assessing the past, present, and potential public interest in altered lands and coming up with coherent policies for these lands which balance public (regional, national) interest and private and

local needs. This might involve some sort of "classification" of these areas reflecting not only wetland values but impact of activities upon "waters of the U.S." and administrative needs and opportunities. For example, additional general permits might be issued so that individual permits would not be required for some areas and activities providing "best management policies" were applied. Abbreviated permitting procedures may also be appropriate for some areas.

5. Refinements and supplementary materials may also be needed with regard to technical aspects of the Manual itself including, perhaps, the criteria for definining "normal circumstances" for substantially altered wetlands. The author understands that some of these changes have already been made in the revised but unpublished draft of the Manual.

6. The map issue should be revisited for altered freshwater wetlands with high development potential. Such a revisiting is to some extent already taking place since for the first time the Corps has officially recognized certain maps (i.e. the Swampbuster maps) for Section 404 regulatory purposes. Ironically, these maps are being used to exclude certain lands from regulations and no maps are available to include lands. This does not mean that Section 404 wetland regulatory maps are needed for all areas of the nation, only for areas with development pressure where readily identifiable wetland characteristics are missing.

7. Additional joint wetland delineation and permit processing (federal, state, local) procedures are badly needed, particularly in urban areas. See also discussion below.

8. Congress, state legislators, or others should appropriate funds for additional Corps field staff to carry out delineations and permit processing. To some extent this might also be accomplished through reallocation of staff and resources within the agency. This is particularly needed for altered wetland contexts if mapping is considered too expensive.

9. The Corps, E.P.A., S.C.S., and Fish and Wildlife should launch a concerted effort to address major, altered problem wetland situations on a state by state and region by region basis. This effort should be undertaken in cooperation with states and local governments and would address not only identification of such wetlands but the development of more specific plans and regulatory policies which would then be implemented through streamlined procedures. The following steps are recommended:

--First, such contexts should be geographically identified across the nation. The places with the loudest complaints concerning the Manual would probably be indicative of some of these areas.

--Second, regional work groups would be formed drawing upon federal, state, and local representatives to help map or otherwise designate on a presumptive basis "wetlands" where they are not readily recognized by landowners, local governmental officials, etc. These work groups would help define "normal circumstances" and thereby qualify or not qualify lands lacking wetland vegetation as wetland. Scientific input is needed but a broad range of other factors should be considered such as the historical wetlands in the area, the degree of alteration, the probability land will ever revert to a functioning wetland, existing functions and natural hazards, land ownership patterns, etc. Swampbuster maps and soils maps could be helpful but they will probably not suffice alone.

--Third, these regional work groups, should formulate more specific policies and permitting procedures for these lands including what permits will and will not be required, and what mitigation, if any, should be required for particular activities and areas. Community or regional restoration projects might be devised to compensate for conversions of "wetlands". Precedents for such policy setting efforts are to be found in "special management area planning" efforts and "advance identification" efforts, and local "wetland planning and management efforts" (e.g., Anchorage, Alaska).

--Fourth, equitable and streamlined permitting procedures should be designed and put into effect cooperatively by the Corps, E.P.A., the states and local governments to help implement these policies for the specific areas. These permitting procedures could be implemented through various memoranda of agreement and if necessary, by "general permits". These permitting procedures would include joint delineation and permitting procedures (if more than one level of regulations is involved); a division of responsibility between federal, state and local governments for certain permitting decisions (perhaps implemented through general permits); and additional field delineation assistance for small individual landowners, etc.

FIX THE PROGRAM, DON'T SUBSTANTIALLY WEAKEN IT

These measures would help address existing problems with the Section 404 program rather than dismantelling the program. In general, state wetland professionals do not favor cutting back substantially on jurisdiction, providing problems with the existing program can be recognized and can be expeditiously addressed. Overall reactions to some of the ideas which have been suggested in Washington in recent months include:

-**Decoupling the Manual from the Section 404 program.** Most state regulatory staff would probably oppose decoupling the Delineation Manual from the Section 404 regulatory program although there are some pretty strong compliants about the Manual and some staff might favor at least interim remedial measures such as a moratoria with regard to certain altered lands until the program is straightened out for these lands.

--**Putting the Delineation Manual Through Rule-Making.** Most state regulatory personnel would probably oppose putting the Delineation Manual through rule-making at this point in time although a fair number believe it was a mistake not to put it through rule-making in the beginning. They would have favored rule making not because rule-making was legally necessary, but because rule-making would have provided public notice and comment that could have substantially improved the Manual and revealed short comings in applying the Manual to some lands.

Even assuming that, from a public policy perspective, it should have been put through rule-making initially, it must be asked: what purpose would it now serve? The hearings held by the Corps on the Manual, the DPC hearings, and broad scale have achieved much of the public notice, review and comment that would have been achieved initially from rule-making. In addition, we understand that a variety of changes have been made in the Manual. I believe that many states would view any step backward with regard to a adoption of common federal wetland definition and delineation method for the major federal agencies as a mistake to be avoided if at all possible.

--Classification of wetlands. State wetland professionals do not favor simplistic "classification" of wetlands based upon wildlife values alone. However, many favor grouping of wetlands for management purposes.

--Delegation of Section 404 powers to the states. State wetland professions do not, in general, favor rapid, unsupervised "delegation" of Section 404 powers to the states pursuant to revised Section 404 procedures or State Wetland Conservation plans. However, they certainly do favor better coordination with the Corps and E.P.A. and better division of responsibilities to avoid duplication and conflicts. As you know, only Michigan has assumed Section 404 powers although many states have considered and rejected delegation.

The primary reason for state relucance to assume Section 404 powers at this point in time may be budgetary. Despite grumblings about the program, most states are really hurting budget-wise and do not want (or cannot) take on new staff-demanding programs. The second reason is lack of expertise. Regulating wetlands requires considerable hydrologic, soils, and other types of expertise. The third reason is the complexity of the Section 404 statute and assumption requirements. Assumption pursuant to the statute is not an easy matter and states may acquire power over permits in only a limited number of situations. The forth reason is the availability of an alternative--the State general permit from the Corps--which allows much more flexible division of responsibilities between the Corps and the states.

In conclusion, state wetland professionals support the Section 404 program and associated initiatives overall but believe there are substantial problems with the program as it is being applied to agricultural/wetlands and other highly altered wetlands. They support measures to address these problems. But I see little support for broad-brush, simplistic solutions which exclude large acreages of altered agricultural and urban wetlands from any sort of planning or regulatory supervision because of the relationship of these wetlands to water quality and their restoration potential. In general, state wetland professionals believe the program should be fixed, not dismantled.

Feb. 4, 1991

Draft
For Discussion Purposes
(The views expressed are those of the author and not
necessarily those of the Association or its members.)

WHAT MIGHT BE DONE TO ADDRESS THE PROBLEMS ENCOUNTERED IN APPLYING THE SECTION 404 PROGRAM, VIA THE FEDERAL WETLAND DELINEATION MANUAL, TO AGRICULTURAL, URBAN AND OTHER HIGHLY ALTERED FRESHWATER WETLANDS?

by

Dr. Jon Kusler,
Executive Director,
Association of State
Wetland Managers

INTRODUCTION

Over the last decade, the Federal Section 404 program has evolved into an increasingly effective and important tool for protecting the Nation's coastal and estuarine wetlands and wetlands along rivers and lakes. But, until recently the program was not widely enforced by the Corps in most areas of the Nation with regard to isolated and altered freshwater wetlands (including agricultural lands).

The program has become much more effective over the last several years due, in part, to changed policies within the Corps such as the Memorandum of Agreement (M.O.A.) concerning mitigation between E.P.A. and Corps, and adoption of the Federal Wetland Delineation Manual. More important the Corps has more aggressively applied and enforced the Corps' Section 404 regulations and E.P.A.'s 404(b)(1) guidelines in the field offices (Districts and Divisions) where permits are issued.

These changes are to be generally applauded from a wetland protection perspective but they have also revealed (or perhaps resulted in) certain weaknesses in the Section 404 program that were not previously evident.

Unfortunately, because of these weaknesses, greater public confusion and controversy surrounds the use of the term "wetland, as applied to certain lands, than at any time during the last twenty five years. This is ironic considering widespread recognition of wetland values and the growing consensus in the public and the regulatory community concerning the desirability of applying a "no net loss" goal.

A variety of proposals are also being made to cut back on the regulatory jurisdicational area for the Section 404 program. It is also ironic that this is taking place at a time of growing concern and regulatory requirements with regard to nonpoint source pollution, and the same time, growing scientific consensus concerning the role of wetlands in protecting water quality (sediment, nutrients, toxics) and reducing certain pollutants.

Most of the confusion and controversy concerning the definition of "wetland" and the application of the Section 404 program concerns a particular type of wetland: **altered, freshwater wetlands that have been partly drained or where the hydrology has been substantially altered.** These include not only many agricultural lands but large acreages of land in some urbanizing areas such as New Orleans and Buffalo, N.Y. with flat topography, tight (often hydric) soils, and fairly substantial rainfall.

At the center of this controversy is the federal Wetland Delineation Manual (hereafter referred to as the Manual) which has been adopted as a mandatory regulatory procedure for identifying Section 404 "jurisdictional wetlands" by the U.S. Army Corps of Engineers, the U.S. E.P.A., the Fish and Wildlife Service and the Soil Conservation Service. This Manual and its application in regulatory contexts has touched off a firestorm that has stalled not only federal but some state and local wetland protection and management efforts.

The Delineation Manual became a major issue in the six regional Domestic Policy Council hearings on the "no net loss goal" last fall although the Manual was not initially an issue for the hearings. Agricultural interests were particularly vocal with regard to the Manual and it application. Proposals will likely be considered in the next session of Congress to specifically decouple the Manual from the 404 program, broaden certain exemptions, classify certain wetlands, or otherwise modify the jurisdictional coverage of the Section 404 program.

Confusion concerning the Manual and its application has spread to and begun to affect state wetland intiatives in a number of states. For example, recent hearings on proposed changes in New York freshwater wetland regulations held near Buffalo, December 17, drew over 1,000 attendees, many of them opposed to the regulations. The proposed regulations did not change the New York state definition of wetlands. But, despite N.Y. Department of Environmental Conservation efforts to distinguish these regulations from federal wetland regulations through handouts and information meetings, many, if not most of the attendees at the hearing confused New York regulations with the federal regulations and the Delineation Manual and believed (wrongfully) that the New York regulations would greatly increase the area of N.Y. regulatory wetlands, particularly in these altered, freshwater wetland contexts. Similar stories emerge from Illinois, Maryland, Delaware and other states. Confusion over the Manual and its application to altered lands has undermined and is undermining state legislative and administrative efforts to implement a no net loss goal.

What are the benefits of the Manual as a Section 404 wetland jurisdictional tool? What are the problems with the Manual? What can be done to address these problems?

The following paper addresses these issues on a preliminary

basis. It is based upon a week-long wetland delineation "training the trainers" workshop the Association of Wetland Managers conducted for representatives from 23 states in Zion, Illinois, in September 1990 and participation by the author in 1989 and 1990 in wetland meetings involving about 3,000 consultants, local governments, non governmental organizations, landowners and others.

STRENGTHS AND WEAKNESSES

Benefits, Strengths of the Manual and Its Application in a Section 404 Context

We found in our training program in September that state personnel were almost universally enthusiastic about the Manual per se although there were also reservations about its use as a regulatory jurisdictional document without further clarifications. In general, consultants who attended other meetings over the last year were also enthusiastic or at least intrigued by the Manual, although some consultants objected to various technical aspects of the Manual.

Most of the complaints about the Manual were from landowners, developers, local governments, farming organizations and others who either did not understand the Manual or disagree with the way it was being applied.

More specifically, those in favor of the Manual saw these benefits:

First, the Manual represents an enormous step forward in the agreement between the federal agencies, consultants, scientists, and others on a single wetland definition and set of criteria for delineating wetlands. A consistent wetland definition for regulatory purposes was called for by the National Wetland Policy Forum and has been widely recognized as needed by policy-makers and regulators at all levels of government. Most state and local wetland regulations employ different wetland definitions than those used by the Manual so the Manual could only be partially applied to their efforts. Nevertheless, there was a feeling among the states that once all the bugs were worked out of the Manual and its application to particular types of wetlands, the Manual and the wetland definition utilized in the Manual could lead the way for state and local programs.

Second, the Manual represents an important step in the direction of a scientifically sound and consistent way of identifying not only vegetated wetlands but lands stripped of vegetation or otherwise altered which are capable of growing wetland vegetation. The three parameter approach applied with the Manual--vegetation, hydrology, and soils--provides a much more certain and comprehensive way of identifying lands subject to particular degrees of "wetness" so that they are capable of sustaining vegetation. The desirability of considering all of these lands as regulatory "wetlands" is, of course another issue.

Third, the Manual is an important step in developing a set of criteria and procedures for identifying wetlands in a way that

will provide a relatively fixed boundary over time despite periodic increases and decreases in rainfall. More or less fixed boundaries, which do not substantially vary over time, may not be very attractive to the scientist, since rainfall varies from year to year and in longer term cycles. However, relatively certain boundaries are badly needed in land planning and in the development control process. One must know with a fair amount of certainty where houses, roads, dams, agricultural activities, etc. should be placed over a period of years. Yet, any boundary that relies on wetland vegetation or temporary hydrology alone will fluctuate over a period of years as rainfall periodically increases and decreases. This means that some lands (particularly in low gradient topography) will be considered wetlands and then not wetlands and then wetlands again as long as the focus is upon year to year conditions. Soils, which are stressed in the Manual, but not to the exclusion of other indicators, are the only readily available wetland indicator that reflects relatively long term conditions and provides some averaging of conditions. However, soils must also be used with great care, particularly where hydrology has been modified or altered and additional criteria for soils, vegetation, and hydrology are needed if this troubling relatively fixed versus migrating boundary issue is to be addressed.

The Manual, as it now exists, does not fully address this fluctuating boundary issue, but the techniques and approaches incorporated in the Manual could be supplemented to do so by further refinements in "normal circumstances" and the more specific soils and hydrologic criteria used to determine such circumstances.

For these three reasons, there was a definite feeling among technical (scientific, regulatory) people at the meetings we have conducted over the last year that the Manual and the wetland definition incorporated in the Manual is the "direction of the future" (assuming the bugs can be worked out).

But, there was also a feeling that the rapid, "cold turkey" implementation of the Manual which has taken place in a national regulatory setting had caught both regulators and the regulated community off guard. Inadequate education and training and lack of adequate regulatory mechanisms for utilizing the Manual have resulted in the terrific outcry and confusion with regard to the Manual.

The question then becomes, what should be done? Should the Manual or the wetland definition utilized by the Manual be thrown out? Given its benefits, that would probably be a big mistake. But there are problems with the use of the Manual. And, these need to be clearly recognized and addressed.

Concerns About the Manual

Three major types of concerns were expressed about the Manual at the meetings we conducted. Some were primarily administrative, some were policy, and some were technical. The administrative, policy, and technical concerns are not totally separable. However, not enough effort has been made (as far as the author can see) to separate the concerns and address them individually. This is unfortunate, because this has prevented the scientists from focusing on the science, the policy-makers from focusing on the policy issues, and the administrators from focusing on the administrative issues and all three groups from entering into a dialogue on questions requiring the simultaneous expertise of all three groups.

Administrative Concerns

First and foremost have been what may be characterized as **administrative concerns** with regard to the Manual and its application. These do not go to the substance of the Manual or it theoretical application to particular lands. Rather, these relate to distribution of the manual to potential users (regulators, landowers, etc.), training and education of users, staffing of the regulatory program, who must make delineation calls, the cost of delineations and permitting, and the amount of time required for acquistion of a permit.

In meeting after meeting we conducted or attended, it was clear that many individuals complaining about the Manual did not understand the Manual, how it worked, or how it applied in either a technical sense or regulatory sense to certain lands. Much of this confusion appeared genuine. Individuals had heard that they could not longer make any use of their agricultural or other lands. Or, that they would need extremely time-consuming and costly permits.

In some instances, the Manual was being or had been misrepresented, intentionally in some instances, apparently to generate public outcry and manipulate public opinion.

More specific administrative concerns included:

--**The Manual is not widely available.** This is often a problem encountered with a new document. On the other hand, there has not been enough effort to widely copy and distribute the Manual or a summary of the Manual to those potentially affected by the Manual.

--**The Manual is not easily understood by the regulators.** The Manual is a highly technical document that cannot be simply picked up by a regulator and applied. This complexity is partly due to the complex nature of the subject matter although the material could (arguably) also be better presented. Apparently a revised version of the Manual has already been prepared which would meet some of these objections.

--**Inadequate training has been provided for regulators in field use of the Manual.** A fair amount of training has so far been provided regulatory field personnel in the use of the Manual by the Federal agencies, private firms, some universities and some nonprofits. Nevertheless, it is clear that many federal regulators have not taken a course in the use of the Manual and many may not understand the Manual even after such a course. Because of the emphasis in the Manual on soils and hydrology, many of the wetland regulators who are biologists and botanists have had trouble understanding and applying the Manual. This situation is improving but is still a major problem. Thousands rather than hundreds of federal, state, and local regulators who must interface with the Section 404 regulations need this training, which is now quite expensive (usually a $600 to $1000 tuition fee plus expenses for a three to five day course).

--The public and landowners have not been familiarized with the Manual and how it (and the regulations linked to it) apply to their lands. It has been argued that the public and landowners need not understand the Manual, because it is a technical document. But, this misses the point. Wetlands are not mapped in a regulatory sense for the Section 404 program. Therefore, landowners are left pretty much to their own devices to decide whether they even might need a Section 404 permit. See discussion below.

--Inadequate education has been provided for administrators and "executives" in use of the Manual. Almost no training and educational efforts with regard to the manual have been provided to "executives" especially policy level personnel in federal, state, and local wetland regulatory programs, legislators and their staff, business executives, farm groups, nonprofits, bankers, and others. These individuals need not have detailed field level expertise in the Manual but they must to be basically literate in the regulatory arena and need to understand how it works in order to supervise field personnel and to seek and supervise consultants. And they need some understanding of wetland delineation Manual.

--The consultant costs for boundary delineation and for securing a Section 404 permit are already high and rising. Fees for consultants who do understand the Manual have increased in the last year (due, in part to the increased demand for their services) making it often very expensive for a landowner to have a wetland delineation utilizing the Manual undertaken, particularly if the consultant chooses to use one of the more comprehensive methods. Minimum fees involved with a site visit and writing a report of $2,000 to $3,000 are often mentioned. This may be much higher if the landowner is required to submit a survey of an entire wetland (a frequent requirement.)

--Regulatory staffing and funding of the Section 404 program is inadequate. The regulatory staffing and mechanisms (i.e., the field delineation procedures, the permit processing procedures) of E.P.A. and the Corps are overloaded due, in part, to the much enhanced workload created by combined adoption of the Manual, the Memorandum of Agreement between E.P.A. and the Corps, and other recent wetland initiatives. Lack of staffing and budget causes problems for landowners, developers, etc. in a number of ways. First, it reduces agency public education and outreach efforts. Corps staff realize that public education is needed on the manual and 404 policies, but it is very difficult to find time for those educational activities when there is a tremendous delineation and permit backload. Second, it has increased the amount of time it takes the Corps to itself carry out a boundary delineation or even determination of nonjurisdiction which is even more frustrating; and it has forced the Corps to rely more upon private consultants. This, in turn, often increases the cost to the private landower. Third, it has increased the amount of time necessary to secure a Section 404 permit.

--Double or triple delineation and permitting requirements are now common. In many states, landowners need not only a federal Section 404 permit but a state wetland permit and, in some instances, local wetland and floodplain permits as well. Often a different state and local wetland definition is now applied to altered or unvegetated lands than the federal definition. As a result, landowners may need to pay consultants for two or three separate delineations as well as preparation of two or more wetland permit applications. This, understandably, can be extremely expensive and time consuming. Progress has been made in some states in developing true "joint-permitting" procedures between the Corps and the states and in allocating permitting responsibilities between the Corps, the states, and local governments. But, much more of this is needed.

Policy Concerns

There have also been policy concerns which deal with the application of the Manual (in legal/technical sense) in certain regulatory contexts. These policy concerns include a more or less integrated set of issues involving: what the the Manual says, the regulatory definition of "wetland", the content of the Section 404 regulations, the Memoradum of Agreement between the Corps of Engineers and E.P.A. on mitigation, the application of Corps General Permits, and the application of other associated regulations. The "policy concerns" primarily address the application of the Manual. But it is incorrect to suggest that the Manual (as some have done) does not play a key role in this process since the wetland definition contained in it and the procedures contained in the Manual are used to define, on the ground, which lands are even subject to regulatory requirements.

It is apparent from the meetings we have conducted that considerable uncertainty exists in the minds of landowners, developers, consultants and even the regulators themselves with regard to what regulatory policies will or should be applied to particular lands, particulary if these are altered wetlands. These uncertainties go to the application of "alternatives analyses" and "water dependency" and to the application of certain "mitigation requirements. They also go to the more basic question whether a permit should be approved at all. Landowners are often told that "the Corps rarely denies permits". But, this is apparently no longer true for some Corps Districts. In addition, even if this is true, landowers often ask: "Why should I spend 8-15 months and $2,000 to $3,000 for a delineation and a permit, if the permit will be routinely issued? Or conversely, why should I go through all of this expense and time if the permit won't be issued?"

Bottom line issues from the combined use of these various regulatory materials with the regulatory definition and procedures set forth in the Manual include:

--What lands are actual jurisdictional wetlands in particular circumstances and who makes the boundary delineation call?

--Who needs an actual permit within the regulatory area (partly dependent upon the Manual since permit requirements depend upon the size of the wetland)?

--What procedures must one go through to get the permit, including overall criteria for qualifying for a permit such as "alternatives analysis", "water dependency", etc.?

--What standards for impact minimization and compensation will be applied to the permit: Will it be granted? conditionally granted? denied? If it will be granted in all cases without conditions, why even require a permit? If it will be conditionally granted, what conditions can be expected?

Technical Concerns With the Manual

A number of technical concerns have been expressed with the manual such as length of inundation (7 days versus 14 days or some other number), the vegetative sampling procedures set forth in the Manual, and some other criteria and procedures. The major problems are often not so much with the Manual per se but problems in the field developing the sort of data called for in Manual. The Corps of Engineers held technical hearings on the Manual in the summer of 1990 to address technical concerns and a group of scientists who developed the Manual have been putting together technical revisions to the Manual.

Although these are "technical concerns", decisions concerning such technical matters obviously affect what lands will or will not be subject to regulations and, more specifically, will require permits. Given the mandatory use of the Manual in a Section 404 context, technical concerns overlap administrative and policy and the implications of any technical decision should be examined in its broader policy and administrative context.

THE APPLICATION OF THE SECTION 404 PROGRAM TO AGRICULTURAL LANDS AND SUBSTANTIALLY ALTERED URBAN WETLANDS

As noted above, the administrative, policy, and technical problems with the Manual come to a head with agricultural lands and certain other altered wetlands. This is not partly because such lands raise difficult data issues in applying the Manual such as evaluating the effectiveness of drainage and other alterations in a particular context. More important, it is because the regulatory mechanisms or procedures to the Section 404 program which worked quite well in the past when applied to vegetated wetlands (and still do work quite well) simply do not work well when applied to altered and unvegetated lands.

This is due to certain characteristics of the Section 404 program as a whole which need to be rethought if the program is to be applied to such unvegetated or altered lands. The Section 404 program has one relatively unique characteristic when compared with state and local wetland efforts. Virtually all state wetland regulatory statutes require that the regulatory agency prepare wetland maps. Similarly, most local wetland ordinances are tied to a wetland regulatory map.

Maps serve several major objectives. First, they put landowners, banks, developers, and public agencies on notice with regard to the requirement for a regulatory permit. Second, they establish a relatively certain regulatory line on the ground. Third, small wetlands are typically omitted on maps, obviating the need for permits in these areas.

The Section 404 program has, since its inception, operated without regulatory maps. This worked relatively well for coastal and estuarine wetlands where the wetland boundary is relatively distinct and recognizable by the layman due to tidal fluctuations and readily identifiable salt-tolerant wetland vegetation. Even the layperson, including landowners, can recognize most salt marshes, mangroves, etc.

The Section 404 program has also worked quite well for major marsh and shrub wetland systems adjacent to lakes and streams. Again, even the lay person, including most landowners, can be expected to recognize marshes and some shrub and forested wetlands, although the latter has caused problems.

Although federal Section 404 regulatory maps have not been prepared for these areas, National Wetland Inventory Maps have been prepared by the Fish and Wildlife Service and are available for much of the nation including most coastal areas and areas adjacent to major lakes and rivers. These maps, which are based on aerial photos, usually only include areas as wetland with characteristic wetland vegetation. While not regulatory in nature, these maps at least provided presumptive notice to landowners with regard to wetland boundaries and the need for a permit. In addition, virtually all coastal states and at least all inland states have prepared state wetland regulatory maps. There have been some differences between state and federal wetland definitions. Nevertheless, state wetland maps for coastal areas and for wetlands along major rivers and streams quite closely coincided with National Wetland Inventory Maps and Section 404 wetland regulatory criteria, prior to the regulation of nonvegetated areas. Most state wetland statutes require the occurence of wetland vegetation. Therefore, the state wetland maps have also been useful in at least providing some notice to landowners that they may require a Section 404 permit.

But, with the adoption of the Manual, this situation changed with regard to severely altered wetlands. As noted above, pursuant to the Manual, unvegetated wetland areas but with wetland hydrology and other conditions sufficient to grow wetland vegetation under "normal circumstances" are now considered wetland. This means that considerable acreages of agricultural lands, graded urban lands, and other altered lands are Section 404 regulatory wetlands. Unfortunately, landowners, developers, banks and others may have limited indication based upon the physical site characteristics that the land is, in fact regulatory wetland. Marshes and swamps are usually now recognized as wetland but not simply "muddy areas", "areas with poor drainage", etc.

The problem is further complicated because, as noted above, the National Wetland Inventory Maps do not usually map these lands (except in some of the pothole region) as wetland because they lack wetland vegetation. Similarly, state wetland maps do not usually show these lands as wetland.

Consequently, landowners are faced with a situation in some contexts where lands do not have easily recognizable wetland characteristics nor are they mapped as wetlands on federal or state maps (except for certain "Swampbuster" maps now being prepared but not widely available). And, without wetland maps, there is no particular size limitation on regulated wetlands where a state has not given section 401 approval to the Corps' Nationwide Permit 26. These means that even extremely small wetlands that lack readily identifiable characteristics and wetlands may require Section 404 permits or Section 404/401 approvals.

It may be argued that landowners and other groups should be educated so that they will be able to identify any land which shows excessive water as a potential wetland and seek a Section 404 wetland delineation and permit (if one is required.) But, as noted above, Corps District offices are overworked and it may take six months to a year to even get a wetland determination by the District Office. Consultants may be able to undertake this determination much more quickly, but this may cost several thousand dollars and will not be binding on the Corps. If a wetland determination is made, the landowner must then go through the wetland permitting process and this may take a year.

As noted above, the actual criteria for Section 404 permits are also not clear, particularly with regard to altered lands. It is not clear when an alternatives analysis is really needed in some contexts (the M.O.A. may be interpreted to require it), what uses are water dependent and whether uses which are not water dependent are to be permitted, and what compensation ratios, if any, are to apply.

What should be done?

CONCLUSIONS AND RECOMMENDATIONS

All in all, this does not mean that the whole Section 404 program and the Manual are not working quite well in most contexts. But, it does mean that real and serious problems now exist for certain situations, principally: **altered, isolated, freshwater wetlands**. The prior Section 404 administrative machinery and policies which served quite well in other contexts is not wholly up to the task of dealing with these new contexts.

In the last year, progress has been made in addressing some of the problems discussed above. Training in the use of the Manual has been provided to many federal agency personnel, states, and consultants. The Manual has been broadly discussed at meetings and is now quite broadly available. A technical review has been completed for the Manual and a new draft with some technical improvements will (hopefully) be published in the near future. A regulatory guidance letter has been issued exempting certain "prior converted" farmlands from permitting requirements although they still meet wetland definition criteria pursuant to the Manual.

On the Washington scene, a variety of additional proposals to address these problems are under discussion by agencies, interest groups, and Congressional committees. Most cut back on the regulatory jurisdictional area or at least on the permitting requirements for the jurisdictional area. One is to decouple the Manual from the Section 404 program on either a long term or temporary basis (e.g., a moratorium). But would this not "throw out the baby with the bath" since the Manual is, overall, sound? Any Congressional or administrative effort which returns the federal bureaucracy to multiple wetland regulatory definitions and definition criteria is not in the interest of the development or regulatory community. On the other hand, it must also be recognized that serious problems do exist and that these should addressed either by re-examining the specific criteria contained in the Manual for applying the wetland definition on the ground (e.g. number of days of inundation) or the regulatory requirements linked to the definition.

A second one is to exclude, on a blanket basis, certain types of altered wetlands from regulatory requirements. The recently adopted Corps of Engineers Regulatory Guidance letter which characterizes "prior converted" farmland as lacking the characteristics of "waters of the U.S." is such a exclusion. But, it is rather difficult to understand, from a scientific perspective, how a wetland cropped before 1985 is any less "water of the U.S." than similar land altered for subdivision, forestry, and any other purpose.

This exclusion may also be viewed as a partial "classification" of wetlands of the sort now being widely discussed in Washington. The basic idea behind suggested classification is that some wetlands are more valuable than others and that differences in value should be reflected in differences in regulatory permitting.

Unfortunately the rather sophisticated wetland classification schemes applied for 18 years in the New York freshwater wetland program have not worked very well. Nor have the regulatory classification efforts of other states. Classification schemes have encountered a number of problems, principally because they have focused primarily upon wetland values and not upon the threats to "waters" posed by development in wetland areas. For example, location of an apartment house in an altered, low "ecologic value" floodway wetland with little habitat value may block flood flows, cause water pollution from the septic tank, accellerate erosion, and threaten the safety of the rentors every bit as much as a similar house in a high ecological value wetland. Impact upon "waters of the U.S." including land/water suitability should perhaps be the test for classifying wetlands for Section 404 purposes if this is to be done.

I do believe that altered wetlands could be better grouped or "classified" for regulatory purposes if such grouping reflected not only values but impacts of activities on adjacent waters and administrative considerations.

A third possibility would not be to classify wetlands, per se, but to broaden the exemptions for activities in specific contexts. For example, certain activities such as construction of an accessory structure on a small lot in an urban wetland context might be exempted altogether from an individual federal wetland permit or if a local government had adopted wetland regulations.

There are no easy solutions with regard to regulation of agricultural/wetlands and other altered wetlands. It is sometimes argued that regulation of such altered freshwater wetlands should, in fact, be totally in the hands of the states and localities. But, given the political realities at the state and local level in most states, this would mean little protection and management for these lands and there may, arguably, be a national interest in these lands from pollution prevention perspectives even if they do not have substantial wildlife value.

Are all lands with "wetness" and "hydric soils" in need of protection or regulatory permitting? Should they all be considered regulatory wetlands? The pros and cons of protecting or not protecting all wet areas capable of growing hydrophytic vegetation is beyond the scope of this paper. However, it should be noted that most wetlands in many urban and agricultural areas are to a greater or lesser extent altered and "giving up" on these lands could potentially affect huge acreages that are in some instances now reverting or could revert to vegetated wetlands. Even if these lands do not now serve the full range of wetland functions, they may serve more and more of these functions over time.

On the other hand, many of these lands serve limited, current wetland functions. They were often converted to various uses prior to any government policies protecting wetlands and often with the blessing and help of government drainage and flood control policies. In urban settings, these lands may be of high value and innocently purchased for various governmental and private uses. Quite often they are in the hands of thousands of small lot owners with limited resources and technical know-how. They are also lands which may be very important to the local economy.

So, formulating and applying blanket policies on a nationwide basis for these lands which both protect resources and provide for equitable treatment of landowners is very difficult. But, a number of steps could be taken short of exempting these lands or particular activities on these lands outright. These include:

1. Relatively simple materials need to be prepared which explain the Manual and its application, particularly with regard to altered lands. Even if technically sound, the Manual is intimidating and complicated. Simple explanations of the Manual area are needed to make clear where the wetland definition and the Manual do not apply and help them understand the Manual where it may or does apply.

2. Relatively simple materials need to be prepared with regard to how the Manual is to be actually used including materials addressing the following questions (note, this is just a preliminary list):

--In what situations should the various alternative methods set forth in the Manual be applied? There is no clear guidance in the Manual on this point and there are reports that some regulators and consultants are always "opting" for the most comprehensive and expensive approaches due to lack of clear guidance on acceptable approaches, fear or liability, or (in the case of consultants) the desire to maximize profits.

--Can I apply or how do I get government help in applying the Manual to my land and deciding whether I even need a Section 404 permit?

--Where can I find a consultant?

--What are the qualifications needed in a consultant?

--What shoud be required of a consultant?

--How much should be paid to a consultant for a delineation?

3. Maybe even more important than the first and second steps, actual education and training are needed for various groups with regard to the manual and how it is to be used. This should include not only field training but much broader educational efforts for administrators and executives, nonprofits, landowners, bankers, etc. This might take the form of videos (apparently one has already been prepared by the Corps), slide shows, public television programs, seminars, workshops, etc.

4. Refinements should be developed by the Corps and E.P.A. with regard to the written policies and permitting requirements linked to the Manual, particularly with regard to various types of altered lands. This may require going back to basics in terms of assessing the past, present, and potential public interest in altered lands and coming up with coherent policies for these lands which balance public (regional, national) interest and private and local needs. This might involve some sort of "classification" of these areas reflecting not only wetland values but impact of activities upon "waters of the U.S." and administrative needs and opportunities. For example, additional general permits might be issued so that individual permits would not be required for some areas and activities providing "best management policies" were applied. Abbreviated permitting procedures may also be appropriate for some areas.

5. Refinements and supplementary materials may also be needed with regard to technical aspects of the Manual itself including, perhaps, the criteria for defining "normal circumstances" for substantially altered wetlands. The author understands that some of these changes have already been made in the revised but unpublished draft of the Manual.

6. The map issue should be revisited for altered freshwater

wetlands with high development potential. Such a revisiting is to some extent already taking place since for the first time the Corps has officially recognized certain maps (i.e. the Swampbuster maps) for Section 404 regulatory purposes. Ironically, these maps are being used to exclude certain lands from regulations and no maps are available to include lands. This does not mean that Section 404 wetland regulatory maps are needed for all areas of the nation, only for areas with development pressure where readily identifiable wetland characteristics are missing.

7. Additional joint wetland delineation and permit processing (federal, state, local) procedures are badly needed, particularly in urban areas. See also discussion below.

8. Congress, state legislators, or others should appropriate funds for additional Corps field staff to carry out delineations and permit processing. To some extent this might also be accomplished through reallocation of staff and resources within the agency. This is particularly needed for altered wetland contexts if mapping is considered too expensive.

9. Ninth, the Corps, E.P.A., S.C.S., and Fish and Wildlife should launch a concerted effort to address major, altered problem wetland situations on a state by state and region by region basis. This effort should be undertaken in cooperation with states and local governments and would address not only identification of such wetlands but the development of more specific plans and regulatory policies which would then be implemented through streamlined procedures. The following steps are recommended:

--First, such contexts should be geographically identified across the nation. The places with the loudest complaints concerning the Manual would probably be indicative of some of these areas.

--Second, regional work groups would be formed drawing upon federal, state, and local representatives to help map or otherwise designate on a presumptive basis "wetlands" where they are not readily recognized by landowners, local governmental officials, etc. These work groups would help define "normal circumstances" and thereby qualify or not qualify lands lacking wetland vegetation as wetland. Scientific input is needed but a broad range of other factors should be considered such as the historical wetlands in the area, the degree of alteration, the probability land will ever revert to a functioning wetland, existing functions and natural hazards, land ownership patterns, etc. Swampbuster maps and soils maps could be helpful but they will probably not suffice alone.

--Third, these regional work groups, should formulate more specific policies and permitting procedures for these lands including what permits will and will not be required, and what mitigation, if any, should be required for particular activities and areas. Community or regional restoration projects might be devised to compensate for conversions of "wetlands". Precedents for such policy setting efforts are to be found in "special management area planning" efforts and "advance identification" efforts, and local "wetland planning and management efforts" (e.g., Anchorage, Alaska).

--Fourth, equitable and streamlined permitting procedures should be designed and put into effect cooperatively by the Corps, E.P.A., the states and local governments to help implement these policies for the specific areas. These permitting procedures could be implemented through various memoranda of agreement and if necessary, by "general permits". These permitting procedures would include joint delineation and permitting procedures (if more than one level of regulations is involved); a division of responsibility between federal, state and local governments for certain permitting decisions (perhaps implemented through general permits); and additional field delineation assistance for small individual landowners, etc.

In summary, concerted efforts should and can be made to address the problems now being encountered with the application of the Section 404 program and associated state and local wetland protection efforts as applied to agricultural wetlands and other highly altered wetland contexts. There is sufficient national interest in these lands as "waters of the U.S." to require continued federal involvement for these areas. But, existing programs and policies need to be more carefully tailored to specific contexts, to involve all levels of government, and to provide greater certainty and fairness to individual landowners.

World Wildlife Fund
The Conservation Foundation

STATEMENT OF

HEIDI SHERK, ASSOCIATE

WORLD WILDLIFE FUND AND THE CONSERVATION FOUNDATION

Before the

Committee on Small Business

United States House of Representatives

February 6, 1991

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World Wildlife Fund and The Conservation Foundation (WWF) works worldwide to preserve the abundance and diversity of life on earth. WWF is active in shaping conservation policies in the United States and in the international arena, and in promoting conservation in the field -- supporting individuals and institutions in more than 100 countries. We are committed to reversing the degradation of our planet's natural environment, and to building a future in which human needs are met in harmony with nature. WWF has over one million members in the United States. Altogether, the WWF family of 27 national organizations has 4 million supporters around the world.

STATEMENT OF
HEIDI SHERK, ASSOCIATE
WORLD WILDLIFE FUND AND THE CONSERVATION FOUNDATION

Before the

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Mr. Chairman and Members of the Committee:

I am Heidi Sherk, an Associate with World Wildlife Fund and The Conservation Foundation (WWF), the largest private U.S. organization working worldwide to conserve nature. We bring to the cause of international conservation over 1 million members and 40 years experience in environmental policy research, communications, and field work.

WWF has long worked for the conservation of wetlands, both in this country and abroad. Biologically, wetlands are among the richest, most productive ecosystems on earth. The net plant growth of salt marshes exceeds that of all but the most intensely cultivated agricultural areas. The rich and diverse vegetation of wetlands harbors an abundance of fish and wildlife. Wetlands provide nurseries and nutrients for fish, and are breeding, nesting, feeding, and wintering grounds for ducks and geese, and for many species of mammals and reptiles.

Wetlands make an extraordinary contribution to the nation's economy. Wetlands help to reduce the economic damage caused by flooding and erosion -- the dense vegetation absorbs and dissipates wave energy, and helps to stabilize the shore. Moreover, the productivity that makes wetlands such an important biologic resource also translates quite directly into economic benefits. Ninety percent of all fish species of commercial importance depend on coastal wetlands during all or part of their lives. Any loss of these wetlands can be expected to result in a loss in the productivity of our fisheries. The National Marine Fisheries Service has estimated that the loss of 7 percent of the nation's coastal wetlands between 1954 and 1978 has resulted in annual fisheries losses of $208 million.

The National Wetlands Policy Forum: Process and Product

The National Wetlands Policy Forum began several years ago, when Lee Thomas, then Administrator of the Environmental Protection Agency, asked The Conservation Foundation to initiate a dialogue on how the nation could better manage and protect its wetlands resources. Bringing together representatives of all the major interest groups with a stake in wetlands policy, the Forum achieved a broad and historic consensus on one of the most bitterly contested environmental issues of our time. The Forum recognized the importance of a healthy economy and the concerns of the business community -- current wetlands programs lack consistency, predictability, and timeliness, resulting in unnecessary delays and frustrations. The Forum's recommendations present Congress a unique opportunity to address these concerns and develop bold and far-reaching reforms that promise real progress in conservation of this critical resource.

The agenda of the Forum was to develop sound, broadly supported recommendations for improving federal, state, and local wetlands policy. The Conservation Foundation role was to convene the Forum, facilitate the dialogue, and provide staff support.

Participating as members of the Forum were:

- three governors -- Thomas H. Kean of New Jersey as chairman, Carroll Campbell of South Carolina and Booth Gardner of Washington as vice-chairmen;
- the president of the Wyoming State Senate (John Turner, now director of the U.S. Fish and Wildlife Service);
- the heads of state agencies from California and Alaska;
- a town supervisor from New York;
- four high-level corporate executives -- two from real estate development companies and one each from the timber and petroleum industries;
- The CEO's of four environmental groups -- the National Audubon Society, National Wildlife Federation, Environmental Defense Fund, and The Nature Conservancy;
- three farmers -- one each from Louisiana, Illinois and the prairie pothole region of Minnesota and the Dakotas; and
- two distinguished academicians.

Lee Thomas and the assistant secretaries of the four other federal agencies involved in wetlands protection and management -- the U.S. Army Corps of Engineers, the Department of the

Interior, the Department of Agriculture, and the Department of Commerce's National Oceanic and Atmospheric Administration -- participated as ex-officio members. These individuals, representing interests and organizations that have often been at odds over wetlands policy, worked together for a full year to reach consensus on a comprehensive set of recommendations. In November 1988, the Forum released its report, entitled "Protecting America's Wetlands: An Action Agenda," setting forth over 100 recommendations for action by federal, state, and local governments and the private sector.

After release of the report, members of the Forum continued to work together to develop further guidance for implementation of its recommendations. In July 1989, the Forum met and reached agreement on a concept paper for federal legislation implementing the Forum's recommendations. I ask that a copy of the Forum's final report and recommendations for federal legislation be included in the record of these hearings.

I urge each member of the Committee to review the Forum's reports carefully. Speaking on behalf of World Wildlife Fund and The Conservation Foundation, I would like to highlight what we believe to be the principal themes in the Forum's recommendations, so that the Committee can keep those themes in mind as it examines how wetlands conservation programs affect small businesses, and how these programs can be improved to reduce unnecessary burdens on the regulated community and better protect this critical resource.

THE FORUM'S PRINCIPAL THEMES

The Forum's reports offer important insights that should guide Congress's efforts to improve the nation's wetlands conservation programs. The Forum proposes a comprehensive package of recommendations that addresses both the complexity and urgency of the problem of continuing wetlands loss in the U.S. The Forum concluded that an effective conservation program would require clear national goals, comprehensive strategies to implement the goals, a more active role for states, and improved research and information. Equally important, the Forum emphasized that reforms must be balanced -- responding to the needs of both conservation and development interests -- so that broad support can be maintained.

The Need for a National Goal

The Forum found that national wetlands policy must be keyed to clear goals. Most environmental statutes set goals for the programs they establish -- the Clean Water Act seeks to achieve "fishable" and "swimmable" waters; the Clean Air Act seeks to achieve "healthy" air. These goals provide benchmarks against which our efforts can be assessed. Yet the fragmented programs to conserve wetlands have had no such overall objective, and they have floundered as a result.

The Forum called on Congress to establish twin national goals for conservation of the wetlands resource: in the short term, to achieve "no overall net loss," and, in the long-term, "to increase the quantity and quality of the nation's wetlands resource base." It is a seemingly modest declaration: we shall brook no further deterioration of the wetlands resource. But at a time when most experts estimate that we continue to lose 300,000 to 500,000 acres of wetlands a year, no overall net loss would be dramatic progress. And it is such a lofty yet urgent goal that is needed to give our wetlands conservation efforts consistency and focus.

The Need for a Comprehensive Program

The Forum emphasized that, to succeed, wetlands conservation efforts must be comprehensive. We must identify all threats to the wetlands resource, and deploy a broad array of measures to address those threats, in a coherent strategy best tailored to the particular needs of an area.

Accounting for all losses: The Forum's goal of no net loss requires a comprehensive approach. To assure that we have reduced "net" losses to zero, and eventually to chart a net gain, we must account for all losses from whatever cause. To date, we have too often focussed solely on the most conspicuous causes of wetlands losses -- specifically, people filling them in. But our wetlands resource is diminished by losses from a much broader variety of causes -- by people draining, flooding, or clearing wetlands; by contamination from water pollution or toxics in runoff from adjacent lands; by the continued effects of past human activities (dams, levees, channelizations); and by natural losses, such as erosion and siltation. Getting to no net loss will require that we address all of these threats.

Bringing all tools to bear: Success will require that we bring to the cause of wetlands conservation a broader array of tools than we have heretofore deployed. To reduce losses, and offset those that cannot be avoided, we must strengthen traditional tools, and develop new ones.

Regulation will be an important part of the effort. The Forum concluded that the federal regulatory program (under Section 404 of the Clean Water Act) should be reformed to make it more effective and more efficient. The program must provide better protection for wetlands by bringing a broader array of threats within the scope of regulation and strengthening mitigation requirements. Changes must also be made to reduce the burden that the regulatory process now imposes on the business community. Linking measures such as these will help meet the needs of the regulated community and provide better protection for the resource.

The Forum emphasized that the goal cannot be achieved through regulation alone. Stronger regulation must be accompanied by non-regulatory measures to reduce wetlands losses. Outside of Alaska, the majority of wetlands are privately owned. Thus, private landowners should be encouraged to protect wetlands through measures that reward conservation, such as tax incentives, subsidies, and creation of a tax-exempt Wetlands Preservation Trust. Such carrots are important complements to the stick of regulation. The federal government can also make a significant contribution to wetlands protection by improving its programs for the conservation of wetlands on federal public lands, and reforming federal programs that now subsidize wetlands destruction.

Inevitably, some losses will continue, both from human activities and from natural causes. Achieving no net loss will require ambitious programs to offset these losses by restoring degraded wetlands and creating new ones. The Forum recommended a combination of public and private initiatives for restoration and creation.

To assure achievement of no net loss, these tools must, of course, be implemented in a carefully coordinated effort -- a comprehensive strategy that combines an accounting of the expected losses with the measures that will be necessary to assure that those losses are avoided or offset. The Forum recommended that such strategies be developed by each state.

The Important Role for States

States have a key role in implementing no net loss. The Forum concluded that the comprehensive strategies needed to achieve the goal could be best developed at the state level. Such strategies would allow states to anticipate future trends in growth and to accommodate both wetlands protection and legitimate development needs by using a wide variety of both regulatory and nonregulatory techniques.

States, on their own and through their local governments, can promote private stewardship with a variety of tools, including property tax incentives, creation of local land trusts, and flexible zoning techniques, such as transfer of development rights, that help divert development from wetlands.

States and their local governments are also ideally positioned to undertake advanced planning for individual ecosystems, a technique that can channel development away from important wetlands resources, thus averting conflicts between conservation and development before they become acute. Advanced plans can also identify wetlands suitable for restoration.

States can also assume responsibility for the regulatory program established by Section 404. The Forum recommended that states that have prepared a comprehensive strategy for achieving no net loss be encouraged to assume Section 404 responsibility.

The Need for Research and Information

The Forum's call for a more comprehensive, more systematic, and more sophisticated approach to wetlands conservation is necessarily also a call for research and better information. To set priorities and assess tradeoffs we must have better techniques for measuring wetlands functions and values. We must evaluate our efforts at wetlands protection so that we know what works and what does not. And, under a system that depends on improving some wetlands to offset the inevitable loss of others, we must develop better techniques for restoration and creation.

The Need for Balanced Reform

To many, the Forum's recommendations seem ambitious, its consensus improbable. Certainly many Forum participants were surprised that such a diverse group was able to agree on such sweeping reforms. The consensus reflects a shared recognition of the urgent need to stem the loss of wetlands, and two years of hard work. It also reflects an appreciation of the need for balance in reform.

The Forum reached consensus on a package of recommendations. Many parties agreed to some recommendations in the package only because others were included. While all recognize that implementation will likely be piecemeal, it was important to the Forum that these linkages be preserved. Thus, for example, measures to streamline regulation by establishing mitigation banks and authorizing regional general permits must be linked to measures that strengthen regulation, such as requirements for full compensation for private actions and expanded monitoring and enforcement. Such linkages hold the key to the Forum's consensus.

FEDERAL LEGISLATION

We hope that these themes from the Forum's reports provide useful starting points for Congress as it considers legislative opportunities to improve our wetlands conservation programs. The reauthorization of the Clean Water Act provides an ideal opportunity to implement a balanced reform package that can address the concerns of the small business community. We urge you to consider the following recommendations:

1. Legislate a national goal of "no overall net loss." The Forum's goal of "no overall net loss" has been widely endorsed -- unanimously by the National Governors' Association, and repeatedly by President Bush. The 1990 Water Resources Development Act establishes no net loss as the goal for the Army Corps of Engineers' water resources development program. The Coastal Planning, Protection, and Restoration Act of 1990 encourages Louisiana to control its development so as to achieve no net loss of coastal wetlands. These efforts represent

progress, but such a piecemeal approach is insufficient. No net loss needs to be fixed in policy as a national goal. Incorporating the goal into the Clean Water Act is a critical step.

2. Expand, strengthen, and streamline Section 404. Changes to Section 404 must be two-fold. Now confined to discharges of dredged or fill material, Section 404 should be expanded to require permits for activities that drain, flood, or clear wetlands. Mitigation requirements should be made more stringent, so that the regulatory program itself yields no net loss, and enforcement should be more vigorous. Equally important, the Forum urged that the regulatory process be streamlined, to minimize the burden on the economy, through use of measures such as regional general permits for wetlands of low ecological value, "one-stop" mitigation determinations, and mitigation banks. We also urge Congress to assure that, as it increases the responsibilities of the regulatory program, it increases the resources provided to that program.

3. Support state efforts to take a more active role. State comprehensive wetlands strategies can foster a cooperative effort that cuts across all levels of government and the private sector -- necessary actions for effectively balancing wetlands protection and development needs. We commend Congress for appropriating five million dollars in FY 1991 for EPA grants to

states to develop more effective wetlands conservation programs. We urge Congress to continue to support EPA's program for states.

We also urge Congress to encourage greater state participation in Section 404 by authorizing both broader and more flexible delegation of authority under that statute to any state that has demonstrated the authority and capability to implement the program, and that has prepared a comprehensive strategy for achieving "no net loss." Specifically, the Forum recommended two amendments. First, states should be allowed to assume jurisdiction over all wetlands within their borders, so long as they assure appropriate coordination with the Corps and EPA; current law excludes from state jurisdiction all waters subject to navigation and their adjacent wetlands. Second, states should be allowed to assume jurisdiction gradually, one piece at a time; current law requires that they assume all or nothing.

4. Establish a Federal Restoration and Creation Initiative. Ambitious restoration and creation initiatives will be required to get to no net loss. We urge Congress to explore possibilities for funding mechanisms to support broader restoration and creation efforts. The Forum suggested that Congress consider dedicating revenues from civil penalties collected under Section 404, and promoting public/private initiatives.

5. Support Federal Research and Information Programs. EPA, the Corps, Fish and Wildlife Service, and other federal agencies are already actively engaged in wetlands research. We urge Congress to support that research, and to assure that there is adequate funding for research in those areas identified by the Forum as critical to reform of wetlands conservation programs: assessment of wetlands functions and values, evaluation of wetlands conservation measures, and development of techniques for restoration and creation.

CONCLUSION

It was the conviction of every member of the National Wetlands Policy Forum that our current programs for the protection and management of wetlands are inadequate on all counts -- that these programs have failed to provide adequate protection for the resource, and have also failed to respond to the legitimate needs of development. The Forum broke through the logjam that has stymied reform of these programs. The key to their consensus is a strategy that is both comprehensive and balanced. We urge Congress to move forward quickly to implement the Forum recommendations we have outlined.

Thank you for the opportunity to appear before you today. I would be happy to answer any questions.

A RELATED CONSERVATION FOUNDATION PUBLICATION, SCHEDULED FOR EARLY 1989 RELEASE:

Issues in Wetlands Protection: Background Papers prepared for the National Wetlands Policy Forum, edited by Michele Leslie, Edwin H. Clark II, and Gail Bingham. 160 pages (app). $17.50.

This Research Report contains background papers prepared by Conservation Foundation staff and consultants. Topics include rates of wetlands loss, wetlands definitions, goals for wetlands programs, advance planning and consensus building, nonregulatory programs promoting wetlands protection, overviews of and gaps in existing regulatory programs, mitigation policies, government programs inducing wetlands alterations, and scientific issues related to the restoration and creation of wetlands.

Copies can be ordered from The Conservation Foundation, 1250 Twenty-Fourth Street, N.W., Washington, D.C. 20037. Check, money order, or purchase order must accompany all orders. Add $2.00 for shipping and handling.

Cover photo: Horseshoe Lake Recreation Area, Illinois (Willard Clay)

PROTECTING AMERICA'S WETLANDS:

AN ACTION AGENDA

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The Conservation Foundation is a nonprofit research and communications organization dedicated to encouraging human conduct to sustain and enrich life on earth. Since its founding in 1948, it has attempted to provide intellectual leadership in the cause of wise management of the earth's resources. The Conservation Foundation is affiliated with World Wildlife Fund.

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PROTECTING AMERICA'S WETLANDS:

AN ACTION AGENDA

THE FINAL REPORT OF THE NATIONAL WETLANDS POLICY FORUM

THE CONSERVATION FOUNDATION
WASHINGTON, D.C.

Protecting America's Wetlands: An Action Agenda
The Final Report of the National Wetlands Policy Forum

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Northeastern wetland in the fall (Leah Haygood)

PREFACE

In the summer of 1987, at the request of the U.S. Environmental Protection Agency, The Conservation Foundation convened the National Wetlands Policy Forum, chaired by Governor Thomas H. Kean of New Jersey, to address major policy concerns about how the nation should protect and manage its valuable wetlands resources.

The Forum has attempted to draw into the process as many perspectives about wetlands protection and management as possible. We have been independent of established institutions and have attempted to step back from the fray of ongoing policy conflicts to take a broad view of how this nation can better protect and manage its wetlands resources. The 20 members of the Forum include 3 governors, a state legislator, and heads of state agencies; a town supervisor; chief executive officers of environmental groups and businesses; farmers and ranchers; and academic experts. In addition, senior officials from the five principal federal agencies involved in wetlands protection and management participated as ex-officio members. These officials supplied valuable information and insights but were not asked to endorse the Forum's recommendations. In addition, although some of the Forum members are officers and members of trade and professional organizations, their participation on the Forum does not imply that these organizations formally endorse all the recommendations in this report.

The Forum members were assisted in their deliberations by senior representatives they designated, a group of respected policy and technical advisors, and the staff of The Conservation Foundation.

Our goal has been to develop sound, broadly supported recommendations on how federal, state, and local wetlands policy could be improved. To assist in this effort, Forum members sponsored public workshops in Louisiana, New Jersey, and Washington State in May 1988. The purpose of these workshops was to obtain the perspectives of other local officials, landowners, public interest groups, commercial interests, private citizens, and wetlands experts regarding the issues the Forum was addressing. These public workshops were very well attended and provided valuable local and national insights into the problems of wetlands management and protection. In addition, we consulted widely with other individuals and groups not directly involved in our deliberations.

Thus, our report represents a consensus, reflecting a wide diversity of perspectives and based on an extensive process of consultation that has been built over many months of discussion and negotiation. While each and every recommendation may not be ideal from each member's perspective, we believe that the entire set of recommendations, taken as a whole, should significantly improve the efficiency and effectiveness of the nation's efforts to protect and manage its wetlands.

We hope that the recommendations and conclusions contained in our report will provide a focus for reframing national wetlands policies and programs to ensure protection of the wetlands resource while creating a more coherent, predictable, and efficient policy framework that supports the economic and social needs of the country.

The Forum and The Conservation Foundation would like to express their sincere appreciation to the U.S. Environmental Protection Agency, The Pew Charitable Trusts, the Mary Flagler Cary Trust, the H.J. Heinz Company Foundation, and the ARCO Foundation for their generous support of this effort, and to the John D. and Catherine T. MacArthur Foundation for their support of the Foundation's Environmental Dispute Resolution program.

For the National Wetlands Policy Forum,
The Honorable Thomas H. Kean,
Chairman
The Honorable Carroll Campbell,
Vice Chair
The Honorable Booth Gardner,
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SUMMARY AND OVERVIEW

The United States urgently needs a better system for protecting and managing its wetlands. These areas are immensely important to both the environmental and economic health of the nation. They provide habitat indispensable to a great and varied array of aquatic, avian, and terrestrial wildlife. They nurture the nation's commercial and recreational fisheries. They help reduce flood damages and abate water pollution. They support many valued recreational opportunities, and they provide a number of other important functions as well. Many of these benefits, however, accrue more to the general public than to the individuals who own the wetlands.[1]

Widespread recognition of these benefits is relatively recent. In the past, wetlands were often viewed as little more than places to be drained or filled. Well-intentioned public and private efforts to provide flood protection, water supplies, better highways, increased agricultural production, and many other public benefits often caused the alteration of substantial areas. As a result, studies indicate, the nation already has lost more than half of the wetlands that existed in the contiguous United States when European settlement began. Though the current rate is unknown, the most recent surveys indicate that heavy losses persist, sometimes as the continuing result of past activities.[2]

Over the past two decades, the United States has devised various public and private programs to protect and manage this valuable resource. Unfortunately, most of these programs have addressed only limited aspects of the wetlands protection problem, and they have been adopted haphazardly and incoherently. This has led to duplication and uncertainty, at times imposing burdensome costs on wetlands owners. The existing programs also leave major gaps in the protection effort.

The members of the National Wetlands Policy Forum firmly believe the nation cannot afford to allow the present situation—with its inadequate wetlands protection, its unacceptable delays and confusion, its costs and frustrations—to continue. We recognize that wetlands protection is only one of many issues the

Egrets (D. Marshall/U.S. Fish and Wildlife Service) nation is facing, but we believe that it clearly merits a higher priority than it has received in the past.

Based on more than a year of deliberations, we have developed an extensive list of recommendations designed to bring about needed improvements. These cover both promoting better private and public stewardship through nonregulatory approaches and improving the effectiveness and efficiency of our regulatory programs. We are confident that, once our recommendations are implemented, the nation will be able both to bequeath its valuable wetlands legacy to future generations and to reduce the costs of its protection.

The Forum's recommendations fall into three general categories: protecting the resource, improving the protection and management process, and implementing our recommended program.

PROTECTING THE RESOURCE

A fundamental defect of the current wetlands programs is that they lack a clear, coherent goal. In the absence of such a goal, conflicts among programs have developed. We recommend a wetlands protection goal be clearly established in national legislation to guide all government programs affecting wetlands. Specifically, we recommend that:

> the nation establish a national wetlands protection policy to achieve no overall net loss of the nation's remaining wetlands base, as defined by acreage and function, and to restore and create wetlands, where feasible, to increase the quality and quantity of the nation's wetlands resource base.
>
> Interim goal:
>
>> To achieve no overall net loss of the nation's remaining wetlands base.
>
> Long-term goal:
>
>> To increase the quantity and quality of the nation's wetlands resource base.
>
> Although calling for a stable and eventually increasing inventory of wetlands, the goal does not imply that individual wetlands will in every instance be untouchable or that the no-net-loss standard should be applied on an individual permit basis—only that the nation's overall wetlands base reach equilibrium between losses and gains in the short run and increase in the long term. The public must share with the private sector the costs of restoring and creating wetlands to achieve this goal.

Achieving the interim and long-term objectives will require significant reforms, including a substantial reduction in the rate at which existing wetlands are being lost and a substantial increase in efforts to restore and create wetlands. The Forum has agreed on a series of recommendations for attaining these objectives.

Reducing Losses

The Forum's goal does not imply wetlands conversions must cease entirely. We recognize conversions will continue to occur through natural change, as a result of past actions that continue to cause losses, and because of future actions taken to provide other public benefits. Nevertheless, the rapid rate of loss needs to be checked. We recommend this be accomplished in four ways:

~ Provide better incentives to private wetlands owners to protect permanently these resources for the public benefit. We recommend the creation of a system of National Wetlands Preservation Trusts, an Agricultural Wetlands Reserve Program, and several other initiatives to provide the incentives we believe are necessary.

- Expand and improve both government and nongovernment wetlands acquisition and preservation programs.
- Reduce wetlands losses resulting from government programs that either affect wetlands directly or encourage private landowners to alter them.
- Institute more effective and evenhanded regulatory programs to ensure that no types of wetlands conversions—including those resulting from drainage, excavation, the destruction of vegetation, and other such causes—are allowed to escape unreviewed because of peculiarities in the wetlands protection laws and regulations.

Increased Restoration

Increased efforts at restoring altered wetlands to their natural state (and in some instances creating new wetlands) will also be necessary to achieve the recommended goal. The Forum recommends that the following steps be taken toward this end:

- Implement stronger mitigation requirements within the regulatory programs so that, taken as a whole, permitted conversions are fully offset by wetlands restoration or creation.
- Require that all government agencies provide full compensation for any wetlands altered by facilities they construct or support.
- Establish a cooperative public-private National Wetlands Restoration Initiative to search out opportunities for restoration of wetlands. This initiative should particularly focus on government-owned lands and areas that have been altered by the construction of facilities undertaken or sponsored by government.
- Implement an Agricultural Wetlands Reserve Program that, in addition to protecting existing wetlands, will fund the restoration of 2.5 million acres of former agricultural wetlands over the next 10 years.

IMPROVING THE PROTECTION AND MANAGEMENT PROCESS

Many of the Forum's recommendations focus on making the full set of wetlands protection and management programs operate more efficiently and effectively than at present, providing better protection with less delay, frustration, and cost.

Planning for Protection and Management

A major element in these reforms is increased emphasis on advance planning to guide our wetlands protection and management programs. The Forum recommends all states undertake the preparation of State Wetlands Conservation Plans to provide a basis for all subsequent acquisition, regulation, and other wetlands protection and management activities. These efforts, which should reflect local land-use plans and other societal values, should result in the nation's wetlands programs anticipating needs and problems rather than merely reacting to them.

Information and Education

To be effective, wetlands programs require a sound information base and a good public understanding of their purpose and operation. Of critical importance is educating wetlands owners and the general public about wetlands values and how best to undertake protection and management efforts.

Fire Island, New York (Dorothy Andrake)

The information base used to justify and design protection and management programs also needs to be expanded. There is a paucity of information on how to measure the different benefits wetlands provide, how to manage wetlands to support these functions, and how to restore and create wetlands to provide the desired benefits on a sustainable basis. Filling these information gaps will require substantial research by both the public and private sectors.

Finally, we need to make information more widely available to those involved in wetlands protection and management. These information dissemination needs range from accurate maps depicting where wetlands exist, to information banks containing the results of research on the functioning of wetlands, and on restoration and creation efforts.

Improved Regulatory Programs

Although the Forum's proposals encouraging voluntary protection of wetlands should reduce the need for regulation, the Forum recognizes that regulatory programs will continue to have an important role in wetlands protection. These programs must be made more effective and efficient. Thus, we recommend the following steps:

- Delegate primary responsibility for all wetlands regulation to qualified states, so long as they have the authority and capability necessary to achieve the proposed wetlands protection goal and have undertaken State Wetlands Conservation Plans indicating how they will do so.
- Provide financial and technical assistance, allow partial delegation of responsibilities, allow states to assume permitting authorities under Section 404 of the Clean Water Act over all wetlands; and require federal activities to be consistent with approved State Wetlands Conservation Plans, in order to encourage the assumption of wetland regulatory responsibilities by the states.
- Work toward adopting a single regulatory definition of wetlands.
- Consider regulating small conversions of less valuable wetlands through regional general permits that provide for expedited processing as long as full advance or concurrent compensation is provided for any wetlands that are altered.

- Allocate more funding to state and federal regulatory agencies for wetlands permitting activities.
- Expand the monitoring and enforcement activities of the agencies responsible for implementing regulatory programs.
- Ensure that regulatory agencies do not make inappropriate use of maps prepared for the purpose of inventorying the nation's wetlands resources.

By adopting these recommendations, the Forum believes the nation can significantly improve the regulation of its wetlands resources without serious costs, delays, or frustrations for those who are regulated.

IMPLEMENTING THE FORUM'S RECOMMENDED PROGRAM

We believe the Forum's recommendations should be implemented as quickly as possible. Any delay means continued costs—both in lost public benefits as wetlands continue to be converted and in the costs of the economic inefficiencies created by current regulatory programs.

Many recommendations can be adopted immediately by federal and state agencies responsible for implementing the existing protection and management programs. We recommend they do so. We also recommend that the president amend and reissue the existing Wetlands Executive Order to emphasize the importance of wetlands protection and to promote the adoption of the Forum's recommendations by all federal agencies.

Some of the Forum's recommendations will also require new federal legislation, primarily as amendments to existing federal statutes. Among the most important of these are our proposals that Congress enact legislation that will:

- Establish the recommended goal as national policy.
- Encourage delegation of federal wetlands regulatory responsibilities to qualified states.
- Establish such initiatives as Wetlands Preservation Trusts and an Agricultural Wetlands Reserve Program.
- Require the president to report to Congress every five years on the nation's success in achieving the national wetlands protection goal.

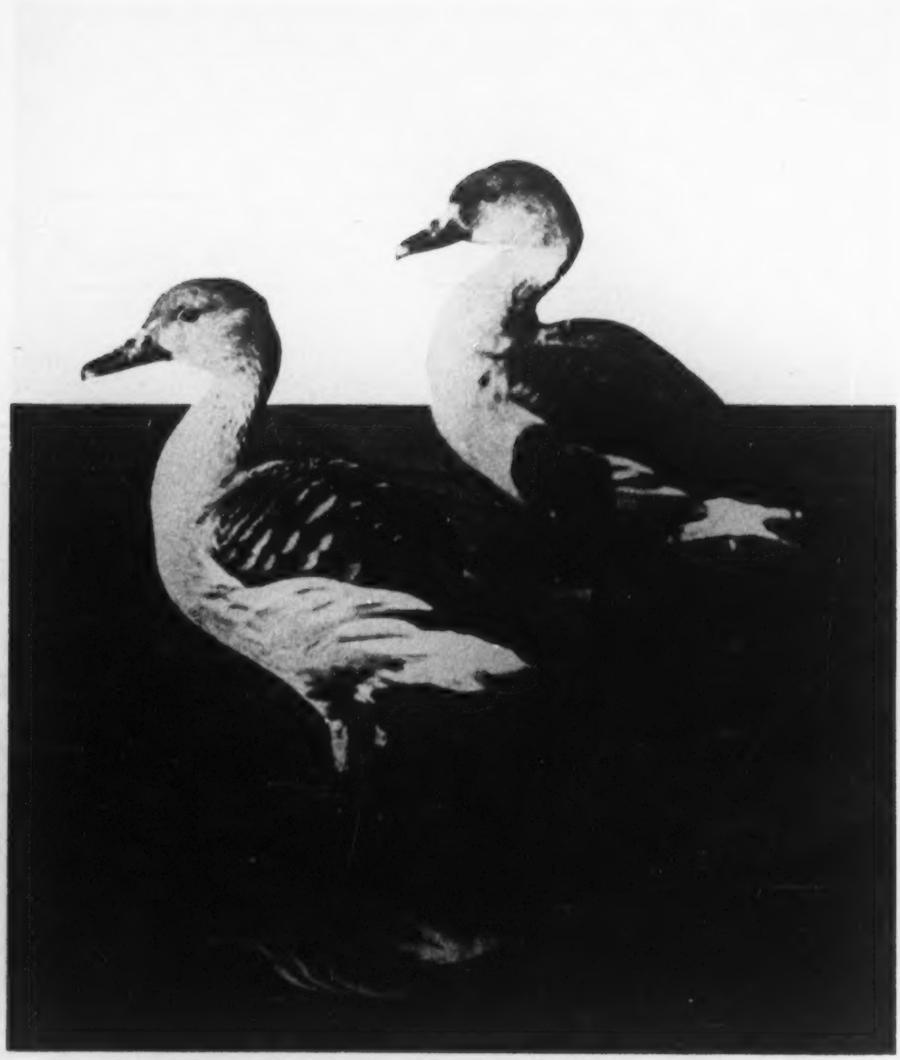
In addition, we recommend states immediately begin the process of assuming primary regulatory responsibility by undertaking the preparation of State Wetlands Conservation Plans, administratively consolidating their wetlands regulation activities, and enacting any legislation they need to provide full protection to their wetlands and qualify for the delegation of federal regulatory responsibilities.

Finally, the Forum realizes its full set of recommendations will require a significant increase in the resources devoted to wetlands protection and management. Yet the costs of not taking these actions will also be very high. And many of the expenditures associated with our recommendations will be offset by cost reductions in other government programs and in the private sector.

We have suggested some possible sources for obtaining the additional funding our proposals might entail. However, we also recognize that severe budgetary constraints may prevent federal and state governments from implementing all of our recommendations immediately. Therefore, we urge quick adoption of those recommendations that can be implemented at relatively little cost, while recognizing that implementation of more costly proposals may have to be delayed until suitable funding sources are identified or current budgetary constraints ease.

However, every day of delay in implementing the Forum's recommendations will cause continued diminution of the nation's often irreplaceable wetlands endowment and perpetuate the current unacceptable situation. Wetlands will continue to be altered at excessive rates and the regulated community will continue to suffer the inefficiencies of current protection programs.

As stewards of these resources, all of us in the public, private, and nonprofit sectors must work together to protect them for the use and benefit of future generations.



Fulvous whistling ducks (Milton Friend/U.S. Fish and Wildlife Service)

I. THE WETLANDS ISSUE

In recent years, dramatic changes have occurred in the nation's appreciation of the many values wetlands provide as integral elements of ecological and economic landscapes. Wetlands used to be viewed chiefly as sources of disease and pestilence. The earliest government wetlands programs simply gave them away on condition that they be drained and converted to purposes considered more useful.[3] In this century, well-intentioned public and private efforts to provide flood protection, greater agricultural production, better highways, and other valued societal benefits have often led to the drainage or filling of wetlands for farming, urban development, and industry. As a result, the U.S. Fish and Wildlife Service estimates that, by the mid-1970s, the nation had lost more than half of the wetlands present in the lower 48 states when European settlement began.[4]

The nation is now coming to realize that wetlands have great value in their natural state (figure 1). Their biological productivity can exceed that of the best agricultural lands. A broad array of wildlife, fisheries, and other aquatic resources depends on them. Wetlands sustain nearly one-third of the nation's endangered and threatened species.[5] They provide breeding and wintering grounds for millions of waterfowl and shorebirds every year. Coastal wetlands provide nursery and spawning grounds for 60 to 90 percent of U.S. commercial fish catches.

Wetlands also play key roles in regional hydrologic cycles—lessening flood damage, reducing erosion, recharging groundwater, filtering sediment, and abating pollution. Within a landscape, they are linked to both upstream and downstream ecosystems, and their functional values may extend well beyond the boundaries of the wetlands themselves. At an extreme, as in the case of some migratory birds, habitat functions can extend even to other continents.

At the same time, property containing wetlands is valuable for other purposes as well. Facilities such as ports and marinas need to be adjacent to water. In some metropolitan areas, the only large, flat, open, centrally located parcels of available land contain wetlands, making them prime sites for shopping centers, industrial parks, airports, parks, highway and utility crossings, and other large developments. Wet-

FIGURE ONE

WETLANDS FUNCTIONS

A. *Flood conveyance*—Riverine wetlands and adjacent floodplain lands often form natural floodways that convey flood waters from upstream to downstream points.

B. *Barriers to waves and erosion*—Coastal wetlands and those inland wetlands adjoining larger lakes and rivers reduce the impact of storm tides and waves before they reach upland areas.

C. *Flood storage*—Inland wetlands may store water during floods and slowly release it to downstream areas, lowering flood peaks.

D. *Sediment control*—Wetlands reduce flood flows and the velocity of flood waters, reducing erosion and causing flood waters to release sediment.

E. *Fish and shellfish*—Wetlands are important spawning and nursery areas and provide sources of nutrients for commercial and recreational fin and shellfish industries, particularly in coastal areas.

F. *Habitat for waterfowl and other wildlife*—Both coastal and inland wetlands provide essential breeding, nesting, feeding, and predator escape habitats for many forms of waterfowl, other birds, mammals, and reptiles.

G. *Habitat for rare and endangered species*—Almost 35 percent of all rare and endangered animal species are either located in wetland areas or are dependent on them, although wetlands constitute only about 5 percent of the nation's lands.

H. *Recreation*—Wetlands serve as recreation sites for fishing, hunting, and observing wildlife.

I. *Water supply*—Wetlands are increasingly important as a source of ground and surface water with the growth of urban centers and dwindling ground and surface water supplies.

J. *Food production*—Because of their high natural productivity, both tidal and inland wetlands have unrealized food production potential for harvesting of marsh vegetation and aquaculture.

K. *Timber production*—Under proper management, forested wetlands are an important source of timber, despite the physical problems of timber removal.

L. *Historic, archaelogical values*—Some wetlands are of archaelogical interest. Indian settlements were located in coastal and inland wetlands, which served as sources of fish and shellfish.

M. *Education and research*—Tidal, coastal, and inland wetlands provide educational opportunities for nature observation and scientific study.

N. *Open space and aesthetic values*—Both tidal and inland wetlands are areas of great diversity and beauty and provide open space for recreational and visual enjoyment.

O. *Water quality*—Wetlands contribute to improving water quality by removing excess nutrients and many chemical contaminants. They are sometimes used in tertiary treatment of wastewater.

Source: Adapted from Kusler, 1983.

lands may overlie important oil, gas, and other mineral deposits or support valuable stands of timber. In agricultural areas, they may provide the only land that individual farmers can readily make use of to expand their cropped acreage.

Landowners receive most of these economic benefits resulting from wetlands use and conversion. In some cases, they can also benefit from their protection. For instance, wetlands can not only generate income from timber production and hunting and trapping leases, but can also aid farming operations, for example, by providing extra pasture and a water source during droughts.

In contrast, the benefits resulting from wetlands protection as well as the costs of their degradation tend to accrue mostly to the general public. Often, the landowner may not be aware of these public benefits and, therefore, may resist efforts to restrict the use of these lands. The fact that the protection of wetlands makes good economic as well as environmental sense for society but not necessarily for the individual owning them is central to much of the conflict over wetlands protection policies.

In many locations, it is not just the land but the water itself that has a high value for other uses. As increasing amounts of this water are consumed for municipal, industrial, or irrigation purposes, the wetlands that depend on it gradually disappear.

The increasing awareness and appreciation of the multiple values of wetlands have spawned an array of government and private programs to acquire, preserve, protect, and manage this resource. In 1972, the federal government enacted the first nationwide wetlands regulatory program in Section 404 of the Clean Water Act and focused increased attention on coastal wetlands by enacting the Coastal Zone Management Act. A number of states and local governments have passed wetlands protection legislation as well, and numerous provisions have been enacted at all levels of government establishing other programs for their public and private protection and management.

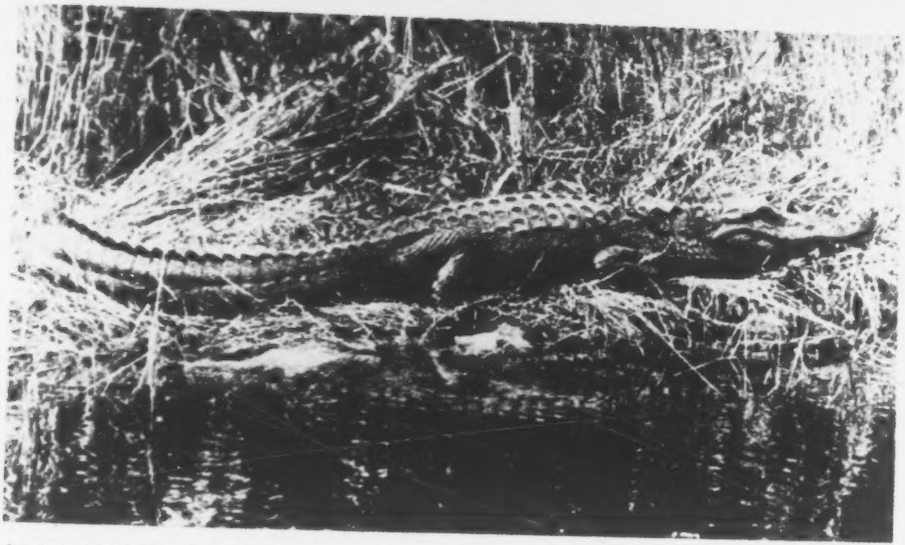
However, current regulatory and nonregulatory programs leave much to be desired. They have reduced—but not stopped—the overall decline in the nation's wetlands resource base. They embody historical ambivalence and contradictions in public perceptions of the value of wetlands to natural ecosystems and to society. They have no consistent goal and are often implemented in a contradictory or uncoordinated manner.

In short, current programs are too cumbersome and the responsibilities too diffuse to guarantee anyone—landowners, the regulated community, conservationists, or even the regulators themselves—consistency, predictability, timeliness, or effectiveness. It is a system that allows hundreds of thousands of wetland acres to continue to be lost or degraded annually, almost unnoticed, while substantial resources and time often are devoted to determining the fate of a few relatively small areas.

Although much progress has been made in protecting wetlands, important challenges—and opportunities—remain. The opportunity exists to eliminate contradictions in public policies, to increase protection for remaining wetlands, and to reduce unnecessary frustration with regulatory programs. The recommendations in this report come from a shared recognition by businesses, environmental groups, and government agencies alike that the time has come to stem and eventually reverse the trend of wetlands losses, and to do so in a way that supports a healthy economy. The Forum believes it is time for the nation to realize wetlands protection is good public policy.

THE PROBLEM OF CONTINUING ALTERATIONS

The U.S. Fish and Wildlife Service (FWS) estimated in a 1983 report that over 200 million acres of wetlands existed in the lower 48 states



American alligator (Leonard Lee Rue III)

at the time of European settlement, but by 1975, the number had decreased to 99 million acres.[6] Losses over the previous two decades averaged 400,000 to 500,000 acres per year. By 1975, California and Iowa had already lost an estimated 91 and 99 percent, respectively, of their wetlands acreage. Areas such as the coastal marshes of Louisiana, the Mississippi Valley bottomland hardwoods, the prairie potholes of the northern Midwest, the Rainwater Basins of Nebraska, and pocosin wetlands of North Carolina have also suffered particularly severe losses.

The 1983 FWS report provides the only information about the rate of wetlands alterations based on a rigorous nationwide survey. No one knows what the current national loss rate is. The congressional Office of Technology Assessment (OTA) estimated in 1984 that it had dropped to 275,000 acres a year by 1980,[7] but this estimate is controversial, and some regional analyses seem to indicate that higher loss rates are continuing.[8]

At the same time, some new wetlands are being created. Private hunting clubs and other organizations such as Ducks Unlimited have intentionally established or improved many wetlands to provide waterfowl habitat. Plant growth around farm ponds produced an estimated 1.8 million acres of new wetlands vegetation between the mid-1950s and the mid-1970s.[9] This accounted for half of all additions during this period. Leakage from irrigation canals and lack of maintenance on drainage ditches also have contributed to the gains. However, the new wetlands may be of different types and provide different functions than those being lost.

The 1983 FWS report provided little information on either the causes of wetlands losses or on the impact of wetlands management programs. The FWS study concluded that 80 percent of the freshwater wetlands lost between

1955 and 1975 had been converted to agricultural uses (figure 2). Six percent had been converted to urban uses. More recently, depressed agricultural prices and passage of the 1985 Food Security Act have probably reduced the rate at which wetlands are converted to agricultural use.

The 1983 FWS report also did not estimate the rate at which beneficial functions provided by wetlands are being lost. Its statistics on losses include only physical and vegetative changes that can be observed from aerial photographs. In some cases, the loss of function may be less significant than these statistics suggest because some functions may continue, at least in part, even with certain types of physical or vegetative changes. In other cases, functional losses may have been greater than the statistics indicate because the survey did not include many types of alteration.

Wetlands can be altered physically, chemically, or biologically (figure 3). Physical alterations can include the placement of fill and other materials in wetlands; excavation; drainage or inundation; or the disruption of natural supplies of sediment needed to maintain their elevation. Sedimentation can also fill riparian wetlands—and, after subsequent vegetational changes, convert them to dry ground—or create new areas of emergent vegetation by filling in shallow waters. Chemical alterations can be caused by changes in nutrient loadings, by the placement of hazardous or other chemical wastes in the wetland, and by the inflow of contaminants from upland or upstream areas. Biological alteration can result from the removal of natural vegetation and the introduction of nonnative plant and animal species.

Alterations can occur at different rates. The artificial filling of wetlands is usually a relatively rapid and discrete event. But some alterations may occur gradually over many years and may continue long after the activities that initially caused them have stopped. For instance, the construction of dams on tributaries to the Mississippi River along with flood control levees along the river itself have reduced the amount of sediment that reaches and maintains naturally subsiding wetlands in the river's delta region.[10] Without this sedimentation, the wetlands are becoming submerged and the vegetation is dying. These alterations will continue even if no new flood control levees are built. They create a base rate of alteration that is unaffected by current protection programs.

Some alterations are also difficult to control because the impacts occur in locations remote from the causes. Large reservoirs and water diversions constructed on western rivers can dry out wetlands located many miles downstream. Although many of Louisiana's wetlands are sustained by sediment transported by the Mississippi River, riparian wetlands in other parts of the country have been lost by being smothered with sediment from excessive upland or upstream erosion. The elimination of natural vegetation in adjacent upland areas also may reduce the habitat value of the wetlands for wildlife species that require large territories.

Wetlands provide an array of natural functions. Alterations may enhance some functions and impair others. Managing wetlands for waterfowl, for instance, may reduce their value as spawning grounds for fish and shellfish. Some types of wetlands alterations are more compatible with the natural wetlands functions than others. Active management of wetlands for wildlife habitat, for example, may involve alterations that affect a variety of natural functions but that preserve the area as a wetland. Harvesting trees from a forested wetland may reduce the value of the wetland as habitat for some types of wildlife and increase it for other types, while having little effect on its flood control values. The use of appropriate forest management practices can result in relatively little reduction in natural functions.[11]

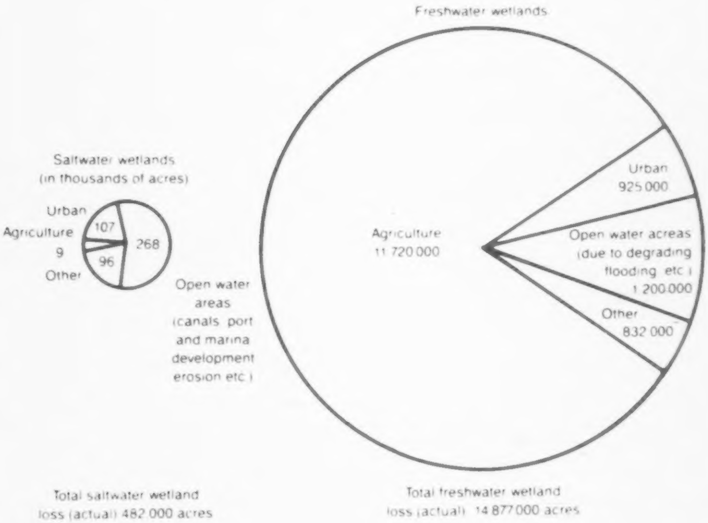
The effects of some uses are more temporary than others. For instance, most harvested forests will grow back after some time. Many agricultural conversions can be restored to wetlands relatively easily.[12] But the effects of filling wetlands are likely to be permanent.

There is still much to be learned about the complex dynamics of wetlands creation, conversion, and alteration. In the meantime, wetlands losses are continuing. Although increased opportunities for compatible uses may exist, wetlands management still will involve hard choices and tradeoffs among competing natural and development values. Conflicts are likely to increase and intensify if the supply of unaltered wetlands continues to diminish.

FIGURE TWO

WETLANDS CONVERSIONS

(mid-1950s to mid-1970s)



Source: U.S. Office of Technology Assessment and U.S. Fish and Wildlife Service National Wetland Trends Study, 1982

FIGURE THREE

METHODS OF ALTERING WETLANDS

Physical

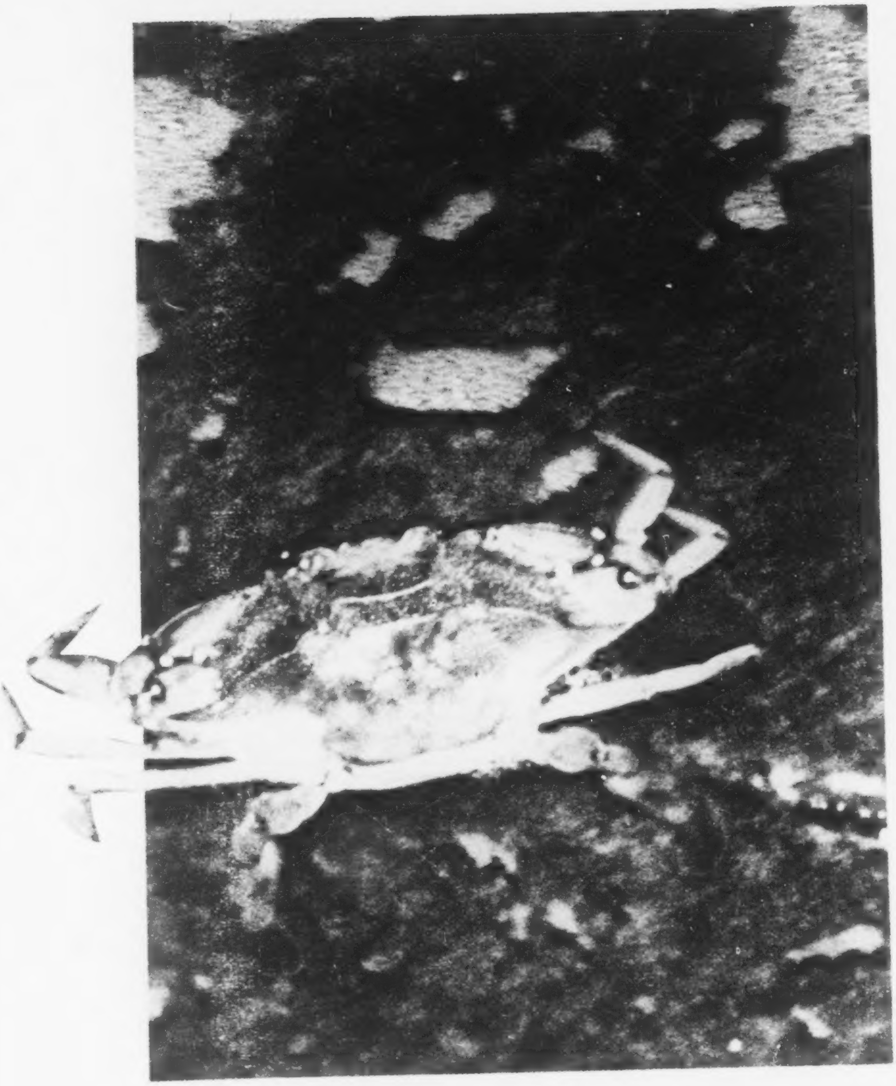
1. Filling:
   —adding any material to change the bottom level of a wetland or to replace the wetland with dry land;
2. Draining:
   —removing the water from a wetland by ditching, tiling, pumping, etc.;
3. Excavating:
   —dredging and removing soil and vegetation from a wetland;
4. Diverting water away:
   —preventing the flow of water into a wetland by removing water upstream, lowering lake levels, or lowering groundwater tables;
5. Clearing:
   —removing vegetation by burning, digging, application of herbicide, scraping, mowing or otherwise cutting;
6. Flooding:
   —raising water levels, either behind dams or by pumping or otherwise channeling water into a wetland;
7. Diverting or withholding sediment:
   —trapping sediment, through construction of dams, channelization or other types of projects; thereby inhibiting the regeneration of wetlands in natural areas of deposition, such as deltas;
8. Shading:
   —placing pile-supported platforms or bridges over wetlands, causing vegetation to die;
9. Conducting activities in adjacent areas:
   —disrupting the interactions between wetlands and adjacent land areas, or incidentally impacting wetlands through activities at adjoining sites;

Chemical

1. Changing nutrient levels:
   —increasing or decreasing levels of nutrients within the local water and/or soil system, forcing changes in wetland plant community;
2. Introducing toxics:
   —adding toxic compounds to a wetland either intentionally (e.g. herbicide treatment to reduce vegetation) or unintentionally, adversely affecting wetland plants and animals;

Biological

1. Grazing:
   —consumption and compaction of vegetation by either domestic or wild animals;
2. Disrupting natural populations:
   —reducing populations of existing species, introducing exotic species or otherwise disturbing resident organisms.



Blue crab (Luther C. Goldman/U.S. Fish and Wildlife Service)

II. CREATING A COHERENT FRAMEWORK

Despite many shortcomings, the nation's current wetlands programs contain many of the elements needed for a comprehensive protection and management system. These elements include regulation at all levels of government, public acquisition of important wetlands, incentives for private protection and management, and programs for obtaining better information about the nation's wetlands inventory and how it can be better protected, managed, and restored.

Still needed is a coherent framework linking these various elements together as well as creative new initiatives to address significant gaps in protection, inefficiencies in existing programs, and counterproductive public actions and incentives. These are the elements of the National Wetlands Policy Forum's recommendations. The Forum's recommendations define the following eight-point national program for the protection and management of the nation's wetlands:

1) establishing a national goal to guide all wetlands protection and management programs;
2) emphasizing the importance of planning for wetlands protection and management;
3) increasing incentives for the wise management and protection of wetlands in private ownership;
4) modifying wetlands regulatory programs to provide more effective protection while reducing unnecessary frustrations and delays imposed on wetlands owners;
5) providing improved government leadership for the nation's wetlands protection efforts by reducing wetlands alterations resulting from government programs, accelerating the rate at which government acquires the most valuable wetlands for permanent protection, improving the government management of wetlands already in public ownership, and restoring wetlands on public lands;
6) improving the quality and quantity of information about wetlands available

to wetlands managers, landowners, researchers, and the general public;

7) expanding the amount of effort devoted to wetlands restoration and creation in order to enhance and increase the nation's wetlands inventory; and

8) ensuring adequate funding and other resources necessary to implement an effective national wetlands protection and management program.

ESTABLISHING A NATIONAL GOAL

The first element of the Forum's recommended program is an overarching goal. Although the Clean Water Act's goal to "restore and maintain the chemical, physical, and biological integrity of the nation's waters" applies to wetlands as well as to other waters of the United States, the Forum concluded that a more specific goal for the nation's wetlands protection and management efforts should be established. Without a clear goal, wetlands programs and policies will continue to lack consistency and focus. Therefore, the National Wetlands Policy Forum recommends that:

> **the nation establish a national wetlands protection policy to achieve no overall net loss of the nation's remaining wetlands base, as defined by acreage and function, and to restore and create wetlands, where feasible, to increase the quality and quantity of the nation's wetlands resource base.**
>
> **Interim goal:**
>
> > **To achieve no overall net loss of the nation's remaining wetlands base.**
>
> **Long-term goal:**
>
> > **To increase the quantity and quality of the nation's wetlands resource base.**
>
> **Although calling for a stable and eventually increasing inventory of wetlands, the goal does not imply that individual wetlands will in every instance be untouchable or that the no-net-loss standard should be applied on an individual permit basis—only that the nation's overall wetlands base reach equilibrium between losses and gains in the short run and increase in the long term. The public must share with the private sector the costs of restoring and creating wetlands to achieve this goal.**

The Forum adopted this goal as a clear, unequivocal statement that the continuing loss and degradation of the nation's wetlands resources is not acceptable. The Forum recognizes, however, that the goal may have to be implemented at different rates in various regions of the country to reflect regional wetlands needs, conditions, and types. For example, continuous arctic or high latitude wetlands underlain by permafrost pose unique scientific challenges to successful restoration and creation. It may also be more difficult to achieve the goal along the Louisiana Gulf Coast, where loss rates are exceptionally high, than in other parts of the country.

The Forum also recognizes that, although achieving the goal will require a significant reduction in the rate at which wetlands are altered, alterations cannot be stopped entirely—some alterations occur naturally, many are a continuing legacy of past activities, and some unavoidable alterations may result from beneficial human activities. Thus, achieving the goal will also require increased compensation for wetlands alterations through a higher rate of restoration of former and degraded wetlands and, where feasible, creation of new wetlands.

Although the continuing decline of the nation's wetlands inventory as a whole is no longer acceptable, the costs of avoiding alterations where possible, and of compensating for unavoidable alterations, may be considerable. Even though a significant amount of compensation can be achieved through the mitigation requirements of regulatory programs, the Forum does not intend that regulated alterations should bear the burden of compensating for all wetlands losses. In addition to some wetlands alterations occurring naturally, some occur as a result of past government and nongovernment activities. Also, some conversion activities are not currently being regulated.

The Forum believes that its full set of recommendations, including proper incentives, nonregulatory programs, improvements in regulatory policies, and substantial efforts toward restoration and creation of wetlands—coordinated on a regional basis through planning and consensus-building techniques—offer the best promise for meeting the national goal.

The Forum also believes that implementation of the goal can best be undertaken in the context of comprehensive, regional planning efforts. Meeting societal needs for such activities as port construction, urban development, and renewable and nonrenewable resource extraction, while accomplishing the goal of no net loss, will require sensitive consideration of the specific factors associated with individual proposals and individual parcels of land. It will also require greater attention to the cumulative impacts of small-scale decisions, all of which can be better analyzed on a regional basis.

PLANNING FOR WETLANDS PROTECTION AND MANAGEMENT

To be effective, the nation's wetlands protection and management programs must anticipate rather than react. They should focus on the future, not the present or the past; on effectively protecting the remaining resources and actively restoring or creating additional wetlands. They should anticipate needs and problems on the basis of rigorous analyses of regional resources, trends, stresses, and values. They should consider the whole, not just the individual parts.

In short, the programs should be based on comprehensive planning for wetlands protection and management undertaken at a variety of levels and coordinated with state and national plans to achieve at a minimum no net loss of wetlands and to aim at a net improvement in the wetlands inventory. The products of such planning processes can guide decisions in managing for multiple objectives; in coordinating government programs that affect wetlands; in implementing regulatory and nonregulatory programs; and in developing new policies to address issues outside the scope of existing authorities. Plans should cover both the land and the water on which wetlands depend, consider the economic and ecological benefits of wetlands, explore the compatibility of different uses, and integrate wetlands protection and management programs with other social goals.

Government agencies at all levels have initiated planning for wetlands management and protection. Local governments, in particular, are well situated to integrate wetlands protection and management into comprehensive land use planning. Local and regional planning, however, should support state and national goals. In addition, to assure successful implementation of wetlands plans, it is vital that the relevant regulatory and nonregulatory wetlands programs at all levels of government be coordinated and integrated within approved local or regional plans. Because of the importance of good wetlands planning, the Forum recommends that:

~ **state and local governments and regional agencies, with the support and cooperation of the relevant federal agencies, undertake wetlands planning to achieve the goal of no net loss, and that Congress allocate adequate funds to assist with these efforts.**

Bird watching, Willapa National Wildlife Refuge, Washington (David B. Marshall/U.S. Fish and Wildlife Service)

In undertaking the plans, the responsible agencies should ensure that the planning process is public and includes a balanced representation of different interests concerned about the protection and management of the wetlands covered. The geographic scopes of the plans should correspond to ecological units and should include, to the extent feasible, all the area that is hydrologically and functionally related to the wetlands of concern.

The plans should pay particular attention to, and explicitly evaluate, the cumulative effects of various types of alterations on the systems under study. They should also be explicitly linked to existing government authorities and result in definite regulatory and nonregulatory products such as zoning restrictions and ordinances, regional permits, advance identification under Section 404 of the Clean Water Act,[11] acquisition, provision of education to wetlands owners, and incentives for private protection efforts.

The U.S. Army Corps of Engineers (Corps), Environmental Protection Agency (EPA), Fish and Wildlife Service (FWS), National Marine Fisheries Service, and other responsible federal agencies should support and participate in any planning efforts initiated by state and local governments and, in addition, should:

- **provide guidance to state, local, and regional agencies on how to carry out effective planning for wetlands protection and management to meet the national goal;**
- **assure that state plans adequately protect interstate and multistate resources such as migratory bird flyways, interstate**

aquifers, and wetlands systems that cross state boundaries or that are particularly valuable or threatened;

- **undertake research on such topics as evaluating wetlands functions, categorizing and ranking wetlands, and developing regional assessment methodologies in order to provide information and analytical techniques useful in preparing a plan; and**
- **coordinate their relevant resource inventories and other information collection efforts with the authorities responsible for carrying out the plans.**

IMPLEMENTING THE FORUM'S RECOMMENDATIONS

Establishing a national wetlands protection goal and providing a larger role for anticipatory planning for wetlands protection and management are two of the major recommendations of the National Wetlands Policy Forum. Many more recommendations are contained in the rest of this report. One of the most important is that public and private organizations concerned about wetlands substantially expand their efforts to inform the public about the importance of these resources and about the programs that exist for their protection and management. The Forum members have dedicated themselves to contribute to these educational efforts.

These, along with many other, Forum recommendations can and should be adopted administratively by the agencies responsible for implementing existing wetlands programs. To ensure the rapid adoption of the recommendations in this report by all affected federal agencies, the Forum recommends that:

- **The president amend and reissue Executive Order 11990 ("Protection of Wetlands," issued May 1977) to reemphasize the importance of wetlands protection and instruct the relevant federal agencies to implement the Forum's proposals for administrative improvements.**

The Forum has established a subcommittee to promote and monitor these efforts as well as the various legislative recommendations made in this report. In addition, the Forum intends to reconvene in a year to assess the progress that has been made in implementing its recommendations and to consider what further actions it could usefully undertake.

The Forum believes that promoting vigorous state regulatory programs and then delegating federal permitting responsibilities to the agencies implementing these programs provides the greatest promise for achieving the improvements in the effectiveness and efficiency of the nation's wetlands regulatory efforts that are so clearly needed. Over the past two decades, the process of state assumption has progressed very slowly. The Forum believes that this pace must be accelerated. As the first steps in this direction, the Forum recommends that:

- **those states that do not already have adequate authority for providing full protection to their wetland resources enact the legislation that is required to provide this authority; and**
- **all states undertake the preparation of State Wetlands Conservation Plans that demonstrate how the state will achieve the wetlands protection goals recommended by the Forum.**

To support increased state assumption of regulatory authorities, the Forum recommends that:

- **EPA increase its efforts in accordance with the Clean Water Act to delegate federal regulatory responsibilities to states that demonstrate that they have the**

Okefenokee National Wildlife Refuge, Georgia (Rex Gary Schmidt/U.S. Fish and Wildlife Service)

authority and capability to achieve the recommended goal and that have undertaken the preparation of State Wetlands Conservation Plans demonstrating how they will do so; and

- **EPA exercise appropriate oversight over delegated programs to ensure that they are achieving their goals. The primary elements of this oversight should be annual guidance on program implementation and an annual review of program success. The agency should normally not involve itself in the review of individual permits except to the extent necessary to exercise its responsibilities under Section 404(c) of the Clean Water Act or unless the permit exceeds the criteria of a joint agreement developed by EPA and the state.**

To encourage the states to accept the responsibility for regulating wetlands and to create a more effective and efficient wetlands protection system, the Forum recommends that Congress enact legislative amendments to:

- **provide for financial and technical assistance to the states to help them in preparing and implementing their State Wetlands Conservation Plans and carrying out delegated wetlands regulatory responsibilities;**
- **allow states to assume discrete and clearly identifiable portions of the regulatory responsibilities as they develop the necessary capability rather than requiring the entire program to be delegated at one time;**
- **allow the delegation of all Section 404 permitting responsibilities (including those in navigable waters and adjacent wetlands) to qualified states that have worked out an effective process for coordinating their review with the Corps of Engineers for permits that may affect navigable waters (the Corps would reserve its rights to protect navigation servitude and national defense but would work with the states to confine its role to interstate and national issues); and**
- **require that federal activities be consistent with the State Wetlands Conservation Plans and delegated state programs after they have been approved by EPA. This requirement would be similar to that which now pertains to approved state Coastal Zone Management Plans.**

Several of the Forum's other recommendations will also require other legislative action, mostly in the form of amendments to existing federal statutes. In many cases, these amendments could be enacted in the normal course of reauthorizing these statutes. Among the most important of these are the Forum's recommendations that Congress enact legislation to:

- **establish the recommended national wetlands protection goal as national policy;**
- **allow for the establishment of nonprofit Wetlands Preservation Trusts;**
- **create a National Wetlands Agricultural Reserve Program;**
- **prevent federal agencies from supporting investments that would degrade particularly valuable wetlands;**
- **expand existing programs that provide incentives for wetlands protection and amend them to increase the permanence of the protection they provide; and**
- **require the president to submit a report to Congress every five years documenting the nation's success in achieving the wetlands protection goal and recommending what changes should be made in the nation's wetlands protection programs if this goal is not being realized.**

Although they may be enacted independently, the Forum considers its entire set of statutory recommendations, at both the state and federal level, to comprise an integrated legislative package. All its legislative proposals, combined with the recommended administrative changes, are important components of the comprehensive changes required to provide a basic framework for creating the effective, efficient wetlands protection and management program that the nation needs. However, more than just legislation is required. Everyone involved—conservationists, industrialists, government officials, developers, farmers—will have to cooperate in implementing the Forum's recommendations to make what is necessarily a complicated and difficult protection system work in a coordinated and comprehensive fashion, with less frustration and cost to all concerned.

Black-necked stilt (S. A. Grimes/U.S. Fish and Wildlife Service)

III. PROMOTING PRIVATE STEWARDSHIP

Outside of Alaska, the majority—65 million acres, according to the Natural Resource Inventory—of the nation's wetlands are owned by the private sector—individual farmers, ranchers,[14] corporations, land trusts, and other private landowners. Thus, an effective national wetlands protection and management program should encourage private landowners to exercise aggressively their stewardship responsibilities to manage and protect these valuable resources. Private initiatives also can effectively complement regulatory programs and may reduce their burdens and inefficiencies.

The Forum believes the nation can promote private stewardship in two basic ways. The first is to educate the public better about why the protection of wetlands is important to the environmental and economic health of the country, and to provide information on existing protection and management programs. The second, recognizing that private landowners have an economic stake in these resources, is to establish a strong program of economic incentives that encourages and assists the private sector to exercise its management responsibilities to protect the public values wetlands provide while contributing to a reasonable return on its investment.

Both components can, if properly implemented, support and supplement other government wetlands protection and management efforts. They can support regulatory programs by reducing the financial costs these programs impose on wetlands owners. And they can supplement regulatory and acquisition programs by encouraging the private protection and management of wetlands. The more effective these programs are in encouraging voluntary private protection, the less need there will be for government regulation.

PUBLIC EDUCATION

Much of the public, including many landowners, continues to lack information and understanding of the functions and value of wetlands, the appropriate techniques for protecting and managing them, the economic and other advantages of protecting them, and even where such information can be found. Thus the first element of a more effective nonregulatory wetlands protection and management program is to provide better information to the public, and particularly the wetlands owner. Without such information, landowners may not be prepared to exercise fully their stewardship responsibilities. This information can be furnished by various federal, state, and local agencies, academic researchers, professional societies, agricultural extension services, local land and water management districts, private conservation organizations, and industry groups.

For example, government agencies and private, nonprofit organizations such as the National Wildlife Federation, the Environmental Defense Fund, and the National Audubon Society have produced films and published numerous books and articles alerting the public to the important values that wetlands provide. The Washington State Department of Ecology maintains a clearinghouse of information on wetlands preservation in the state. A guide outlines options available for individuals who want to know exactly what they can do with wetlands on their property. The guide includes information on organizations in the state that assist owners in protecting their land.

The private, for-profit sector also has taken steps to promote the wise stewardship of its own wetland holdings. Individual corporations may undertake substantial and innovative wetlands protection, management, and restoration efforts. The National Wildlife Federation's Corporate Conservation Council has adopted a wetlands conservation policy and recognizes such efforts with a prestigious annual award. A group of private corporations and nonprofit organizations have formed a new national organization, the Wildlife Habitat Enhancement Council, to provide similar information to companies interested in protecting and managing wetlands areas on their properties.

Local governments in New York and Massachusetts have taken responsibility for informing landowners of the existence and regulatory status of wetlands on their property as part of the advanced planning activities being carried out in these states. States such as New Jersey, Alaska, and South Carolina are providing similar information by cooperating with the Fish and Wildlife Service in inventorying their existing wetlands and making the wetlands maps and other information resulting from these efforts readily available to local governments and landowners. Local and regional land-use plans also can provide important guides for development and protection.

Often landowners face technical problems in implementing voluntary protection and management efforts. Research on wetlands functions and values and means to protect them can provide information that stimulates better protection and management efforts. Federal or state funds could finance the publication and dissemination of information to landowners, local agencies, and others on a variety of wetlands topics such as restoration, enhancement and monitoring, design of alternatives for urban and rural runoff control, and creative development techniques. Particular attention should be given to providing better information about the value of wetlands, as well as opportunities for their improved management and protection to farmers, ranchers, and local governments. Because of the importance of these education efforts, the Forum recommends that:

~ **federal and state agencies along with private and nonprofit groups aggressively expand their education and outreach programs to inform the public and landowners about the location of wetlands, the values these wetlands provide, regulations governing their modification, and the existence of financial incentives and other options available to protect and enhance them. Additional education efforts should provide local governments**

Beaver dam, Moosehorn Refuge, Maine (U.S. Fish and Wildlife Service)

with technical assistance on what they can do in association with federal and state governments to encourage expanded wetlands protection.

INCREASING INCENTIVES FOR PRIVATE PROTECTION

Some economic uses of privately owned wetlands are compatible with maintenance of the wetlands ecosystem. Nonexploitative uses such as leasing private wetlands for hunting, trapping, and fishing provide income to the property owner. In addition, appropriate silvicultural operations can be carried out without damaging the ecosystem. Good silvicultural management practices and the production of native wetland crop species can generate income without significant loss of wetlands functions.[15] Private landowners, including timber companies, should be encouraged to pursue ecologically sound silvicultural practices in privately owned forested wetlands. Timber companies should pursue research on and refinement of silvicultural management practices in bottomland hardwood forests to increase income and protect the wetlands ecosystem. Wetland crops such as cranberries and blueberries should also be produced in a manner compatible with protection of the larger wetland system and compatible with the proposed national wetlands protection goal.

The National Wetlands Policy Forum strongly endorses the increased and coordinated use of compatible economic uses and other economic incentives to encourage landowners to manage, protect, restore, and enhance the wetlands resources that they own. Federal, state, and local governments already are providing a large variety of such incentives, such as tax incentives, subsidies, and inducements for shifting the location of proposed developments.

Such techniques can offer important potential for accomplishing lasting wetlands protection, providing for compatible multiple uses of wetlands, and encouraging wetlands restoration and creation. They also present many opportunities for public-private partnerships. Private organizations devoted to the preservation of wetlands for open space, wildlife protection, hunting, fishing, and other purposes have played a large role in nonregulatory preservation efforts. Organizations such as The Nature Conservancy, Ducks Unlimited, The Trust for Public Land, the National Audubon Society, the National Wildlife Federation, and local land trusts have protected substantial amounts of wetlands by educating private landowners about the advantages of wetlands preservation and by acquiring such lands directly through private donations, after which they are either maintained as preserves or turned over to a government agency.

Although a number of wetlands protection incentives already exist, they are implemented in a largely uncoordinated fashion, many are relatively weak, and many provide only temporary protection. In addition, few incentives to protect wetlands are designed to consider the fact that wetlands do not function in isolation from the surrounding watershed and upstream and downstream systems. The nation needs a program of incentives that is coherent, strong, and permanent. Thus, the Forum recommends that:

- **the Office of Technology Assessment review the entire array of wetlands protection and management incentives and suggest modifications to those offered by the federal government to improve their effectiveness and coherence and to increase the permanence of the protection they offer; and**
- **as part of this review, the Office of Technology Assessment explore ways of encouraging state and local governments to provide additional incentives for private wetlands protection and management that are integrated with those offered by the federal government.**

Tax Incentives

The private preservation of wetlands provides benefits to the nation that exceed those that accrue to the landowner alone. Federal, state, and local tax codes should be adjusted to better reflect these public benefits, to eliminate or reduce the costs of such preservation to the private landowner, and to encourage the permanent protection of these valuable lands.

The federal tax code has traditionally contained such provisions in the form of personal or corporate income tax deductions (for charitable contributions, involuntary government acquisition, or land exchanges), and through favorable valuation for estate taxes. However, the Tax Reform Act of 1986 eliminated some types of deductions and generally reduced the federal tax incentives for private wetlands protection, in some cases imposing what appear to be arbitrary limits on these incentives.*

The National Wetlands Policy Forum recognizes the important reforms to the federal tax system instituted by the Tax Reform Act. However, in seeking to eliminate abuses, the act has reduced the incentives for wetlands preservation.

Some state income tax codes provide incentives for wetlands preservation similar to those in the federal tax codes. In addition, a number of state and local governments reduce or eliminate property taxes on wetlands as an additional incentive. Often, however, such provisions do not ensure the permanent protection of these areas. The Forum recommends that, to stimulate increased private preservation of wetlands:

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*For instance, gifts of appreciated property are only deductible against 30 percent of one's adjusted gross income, while gifts of cash and ordinary income property are deductible against 50 percent of adjusted gross income. If the gift cannot be fully utilized for deduction purposes in the year of the gift, the unused portion of the deduction can only be carried forward for up to five additional years, and if the taxpayer dies before the deduction is used up, the unused portion will never be deductible. Finally, if the protection results from a property exchange, the replacement property must be identified within 45 days and acquired within 180 days of selling of the property, and the tax-free exchange benefits are limited to $100,000.

- **Congress enact legislation that would allow for the establishment of nonprofit Wetlands Preservation Trusts. These trusts would acquire full ownership of conservation easements on wetlands identified as such on Fish and Wildlife Service or equivalent state wetlands maps, and on adjacent uplands, by donation, purchase, or land exchange. They could also acquire former wetlands for the purpose of their restoration. Owners donating lands to such trusts would be eligible for certain technical and financial assistance, including tax benefits, and the conditions of the trusts would place limits on what uses could be made of properties they acquire.**

Many wetlands currently preserved under private and public programs would qualify for designation as Wetlands Preservation Trusts, but this proposal is intended to stimulate appropriate and permanent protection in future acquisitions by a variety of groups. The trusts would be registered with the Fish and Wildlife Service to provide a way to keep track of acquired wetlands.

Among the tax benefits that such donations might receive are: 1) that they be treated like gifts of ordinary income rather than capital gains (that is, allow deductions of up to 50 percent rather than 30 percent of adjusted gross income; 2) that the carry-forward provision for such donations be extended to 10 years and, in the event of death, that the individual's estate be allowed to use the unused carry forward as an estate charitable contribution; and 3) that, where the donation results from a land exchange, there be no limit on the tax-free benefits from such an exchange and that the taxpayer have up to 3 years to acquire the replacement parcel. The Forum also recommends that property values established on these lands for the purpose of assessing property taxes reflect their reduced market value and that states and localities consider exempting properties held in such trusts all or in part from all state and local property taxes. Finally, the Forum suggests that donations to such trusts for the purpose of maintaining, enhancing, restoring, or creating wetlands be fully deductible under the same conditions as the original property donations.

Subsidies

Tax deductions provide little incentive for wetlands protection where the landowner has insufficient taxable income or where the value of the property is low. In such cases, direct subsidies may be necessary. The U.S. Department of Agriculture is currently the largest source of such subsidies, although most of its programs are not restricted to wetlands and their major purpose usually is to increase agricultural income and reduce crop surpluses.

The federal Water Bank Program,[16] authorized in 1970 and expanded in 1980, pays farmers, primarily in major waterfowl production states, to keep their wetlands out of crop production and shares the costs for certain associated management practices. Funding for this program has been declining, and in 1986 and 1987 it reached the lowest levels since its inception.

Several Department of Agriculture programs implemented by the Soil Conservation Service (SCS) and the Agricultural Stabilization and Conservation Service (ASCS) provide technical and financial assistance to farmers attempting to control erosion from their lands. These activities can benefit wetlands by reducing the

(Photo by Dan Guravich World Wildlife Fund)

amount of sediment and agricultural chemicals flowing into them from upland areas.

The Food Security Act of 1985[17] includes several provisions that offer benefits to farmers who set aside sensitive lands, including wetlands. The Conservation Reserve Program (CRP) pays farmers to set aside highly erodible land for at least 10 years. Under current policies, former wetlands experiencing serious wind erosion and buffer strips adjacent to streams, lakes, or wetlands are eligible for this program The CRP may also benefit wetlands by reducing pesticide and sediment runoff from highly erodible upland areas.

States can take over where the federal subsidy program stops. For example, Minnesota has a state conservation reserve program, Reinvest in Minnesota (RIM), for lands that are ineligible for the federal Conservation Reserve Program. One of the three options available to a

Minnesota farmer is the Wetland Reserve Program, which enables farmers to receive payment for a permanent easement on wetlands. An expansion of the program in 1987 allows farmers to retire and restore previously drained wetlands.

All these programs undoubtedly are resulting in the protection of some wetlands. However, the protection is usually temporary, the funds are often limited, and there are few means by which to coordinate the types of wetlands protected so as to respond to overall goals. To respond to these problems, as well as to further the efforts initiated by the Food Security Act to reduce surplus crop protection, the Forum recommends that:

~ **Congress establish a National Agricultural Wetlands Reserve Program in the next revision of the Farm Bill that would, over a five-year period, preserve 5 million acres of current wetlands and restore 2.5 million acres of former wetlands. Under the proposed program, the ASCS would compensate (out of general revenues) owners of cropland, rangeland, and pastureland who transfer their property rights, as either fee simple title or permanent wetlands easements, to a Wetlands Preservation Trust and would pay half the cost of improvements to these lands to enhance their wetlands functions.**

Although this program would require a large initial outlay of funds to establish the reserve, these expenditures would likely be more than offset in subsequent years by reduced payments for agricultural income support programs.

The lands included in this program should satisfy the following conditions: 1) they should currently be classified in "w" or wet capability subclasses or have in the past been converted from one of these subclasses; 2) they should currently be used for crops, pasture, or ranching or be deemed to have "high potential for conversion" to such uses on the basis of the Natural Resources Inventory criteria; and 3) they should be deemed as valuable or potentially valuable wetlands areas by the U.S. Fish and Wildlife Service.

The conditions of the easements should be negotiable with the Fish and Wildlife Service, but in general they should prohibit the owner from taking actions in the future that would impair the functioning of the wetland and should not mandate public access except for inspection and enforcement access by the Fish and Wildlife Service. Such easements could include uplands managed in a way that protects regional water supplies and that prevents sedimentation and nonpoint-source pollution from degrading downstream wetlands.

In addition, the Forum recommends that the Water Bank Program be funded at a higher level than in recent years, that it be expanded to protect other wetland values in addition to migratory waterfowl habitat, and that it allow for the purchase of easements having a life longer than 10 years.

The Forum also recommends that, in the proposed general review of incentives programs, the Office of Technology Assessment carefully examine the possibility of improving and expanding the existing program providing farmers some relief from debts in exchange for their providing permanent protection for valuable wetlands on properties they own.

Finally, the Forum supports the continuation of other existing wetlands subsidy programs, while recommending that they be modified to increase the permanence of the wetlands protection they provide and to reduce the emphasis placed solely on protecting waterfowl habitat. Under any of these programs, the owner should be allowed for tax purposes to deduct

Pond, Adirondacks, New York (William M. Crosby) from other income land values that are not compensated by subsidy payments.

Relocating Development

In some cases, wetlands can be protected by providing incentives for new developments to locate at other, less environmentally sensitive sites. The California Coastal Conservancy, for instance, may offer alternative development possibilities through development rights transfers, cluster development, and flexible financing to developers if they agree to relocate proposed projects away from wetlands.

Such programs are more likely to be effective if carried out in the context of advance planning for wetlands protection and management and in association with regulatory programs that provide permanent protection for threatened areas. Without such protection, the program may only temporarily protect the wetlands from alteration.

Land exchanges with government agencies can offer similar inducements. For instance, ranchers or other landowners might be willing to trade riparian wetlands for upland grazing lands owned by the U.S. Bureau of Land Management, the Forest Service, or a state government.

Local governments with zoning authority can provide similar incentives by adopting more flexible zoning regulations. The state of New Jersey has used such an approach to channel development into less sensitive areas of the Pinelands region. The state established the Pinelands Development Credit Bank to buy, sell, and guarantee loans for the private transfer of development rights from preservation and agricultural areas to designated growth areas. Some states and localities have experimented with programs that allow development rights to be transferred from wetlands to more suitable locations.

Local land-use and zoning codes that allow for clustering and planned-unit developments may also provide some of the benefits of transferable development rights. Under such codes, landowners may have the flexibility to design development projects that avoid wetland areas if the code allows the wetland area to be counted when calculating the number of units that can be built.

In addition, nonprofit organizations have undertaken creative land development projects in which they buy property, develop suitable portions, and either sell developed areas to finance the preservation of the rest or place restrictive covenants on sensitive areas.

The National Wetlands Policy Forum endorses the increased use by all levels of government of these types of techniques encouraging shifts in the location of development away from wetlands to less environmentally sensitive areas. The Forum particularly recommends that federal government agencies be receptive to proposals from private owners of wetlands to exchange these lands for government-owned upland areas.

Diamond-back terrapin (Leonard Lee Rue III)

IV. IMPROVING REGULATORY PROGRAMS

Providing better incentives for wetlands protection through nonregulatory programs will help the nation to achieve its wetlands protection goals. But these incentives cannot do the job alone. Regulatory programs will still be necessary. Probably the biggest challenge facing the country is to make these programs more effective while reducing the costs, delays, uncertainties, and frustrations they impose on wetlands owners, regulators, and the many types of users.

Government programs regulate wetlands in several ways. Some, such as the permitting program established in Section 404 of the Clean Water Act, focus on intended alterations of the wetland resource, requiring anyone proposing such an alteration to obtain a permit from the regulatory agency. The Section 404 program requires permits for most alterations involving the discharge or placement of dredged or fill material in a wetland. However, in spite of several court decisions, considerable controversy continues to exist over interpretations of the intent and scope of this program. Furthermore, the law and the regulations implementing it exempt a number of specific activities even if they do involve such discharges. Other types of alterations, such as drainage, water diversion, and chemical contamination are not covered unless they also involve the discharge of dredged or fill material.

The U.S. Army Corps of Engineers (Corps) and the Environmental Protection Agency (EPA) are primarily responsible for implementing the Section 404 program, with other federal and state agencies having review responsibilities.

Several federal programs control activities that may cause alterations. For example, by generally controlling the disposal of hazardous wastes, the Resource Conservation and Recovery Act (RCRA) should reduce the threat of chemical contamination of wetlands in the future. The Clean Water Act also regulates contamination from industrial and other waste water discharges, as well as nonpoint-source pollution. But the coverage of these programs is uneven, and the extent to which they have been, or could be, applied to wetlands protection is unclear.

Three programs—those implementing the laws or treaties protecting endangered species, marine mammals, and migratory birds—can be used to prevent any type of wetlands alteration in order to protect wildlife. For example, the

Endangered Species Act can be used to prevent the alteration of wetlands necessary to maintain a species' "critical habitat." The application of these programs also has been uneven.

The degree of wetlands regulation by states varies widely. Coastal wetlands generally receive greater attention than inland wetlands, although 14 states currently administer inland wetlands regulatory laws. Some protection also is provided through other state programs—including floodplain management, coastal management, shoreland protection, and water quality certification—but the effectiveness of their implementation is difficult to assess.

The land-use controls exercised by local governments provide them the most extensive and direct authority over wetlands alteration. Zoning, subdivision controls, density controls, and development performance standards are among the tools available to localities. The degree of use varies enormously according to need, staffing, funding, and constituencies. In some states, local governments also are responsible for implementing the state's wetlands protection programs.

Although the sharpest regulatory controversy has focused on the federal Section 404 program, a need for regulatory improvements is evident in all regulating agencies and at all levels of government. Indeed, in some cases the chief problem is the number of relevant but often competing programs that reflect a wide variety of values and purposes. No single agency is likely to have complete or final authority over wetland-use decisions. Overlapping programs often require multiple permits with multiple reviews. A positive signal from one agency may be followed by a contrary response from another. In the meantime, any constructive planning is stymied.

The Forum concludes that wetlands regulatory programs can be improved in four ways. The first is consistently defining and delineating wetlands for regulatory purposes. The second is to adjust the implementation of existing regulatory programs to make them more effective at avoiding wetlands losses as well as at reducing the unnecessary costs and delays they impose on wetlands owners. The third is to adopt more consistent and effective mitigation policies. And the fourth is to deal with types of alterations that are not now addressed adequately with either a regulatory or nonregulatory program.

DEFINING WETLANDS CONSISTENTLY

Determining whether a particular piece of property is a wetland can sometimes be difficult. To an untrained person, for instance, some forested wetlands may appear very similar to nearby upland forests. An expert in vegetation, soil, and water conditions may be needed to tell the difference. For this reason, a landowner may not even realize that a piece of land qualifies as a wetland and is therefore subject to regulation.

The first step in improving regulatory programs is to reach clear agreement on what lands and waters constitute wetlands. Although, in effect, only two major definitions are used at the federal level, over 50 are employed in the nation's many regulatory, research, survey, and other wetlands programs. The differences are related to the various purposes of these programs, to the various individual and institutional perspectives of the implementing agencies, and to the various regions of the country.

Definitions used simply to identify and classify wetlands are likely to be more inclusive than those used to identify wetlands subject to regulation. At the federal level, for instance, the FWS definition used to identify areas for the National Wetlands Inventory is more inclusive than the Corps/EPA definition used to implement the Section 404 regulatory program.

Wetlands found in different regions of the country vary widely in their characteristics. Thus, state and local definitions for regulatory and inventory purposes often reflect local conditions and differ from the federal definitions. These inevitable discrepancies can create confusion, delay, and frustration for landowners seeking to determine whether they own any wetlands subject to regulation.

Another source of inconsistency is the difficulty of applying a wetlands definition to an on-the-ground determination of a regulatory boundary. Under the best of conditions, defining boundaries of some wetlands types can be difficult because one or more of the principal indicators (vegetation, soil, and water) may not be sharply delineated or may change over time. For example, the area covered by water in prairie potholes can change significantly during the year (although the soil indicators are very stable). Different individuals or agencies may also use different boundary delineation methodologies, even with the same definition, and in some cases they may apply the same delineation methodology differently.

The Forum recommends the various regulatory agencies attempt to eliminate, insofar as possible, these problems caused by the use of

Dry wetlands (Scott Berg/American Forest Council) inconsistent definitions and delineation methodologies and, in particular, recommends that federal, state, and, where applicable, local government agencies:

- **adopt a single wetlands definition for regulatory purposes (if any regulatory agency cannot adopt the definition the Corps and EPA use to implement Section 404 of the Clean Water Act, that agency should specify precisely how its definition differs and what the implications of this difference are for the landowner); and**
- **ensure that regulatory agencies and the Swampbuster program do not make inappropriate use of maps prepared for the purpose of inventorying the nation's wetlands resources.**

At the same time the agencies are attempting to reconcile the problems of differing definitions, they should work together to develop consistent delineation methodologies. The Forum encourages the Corps and EPA to accelerate their ongoing efforts to this end and, once they have agreed on a common methodology and its implementation, to expand these coordination efforts to include other regulatory agencies at the federal, state, and local levels.

After agreeing on the appropriate delineation methodologies, the regulatory agencies should establish training programs for agency personnel and others in these methodologies to make field classification and delineation of wetlands more consistent.

REFINING EXISTING REGULATORY PROGRAMS

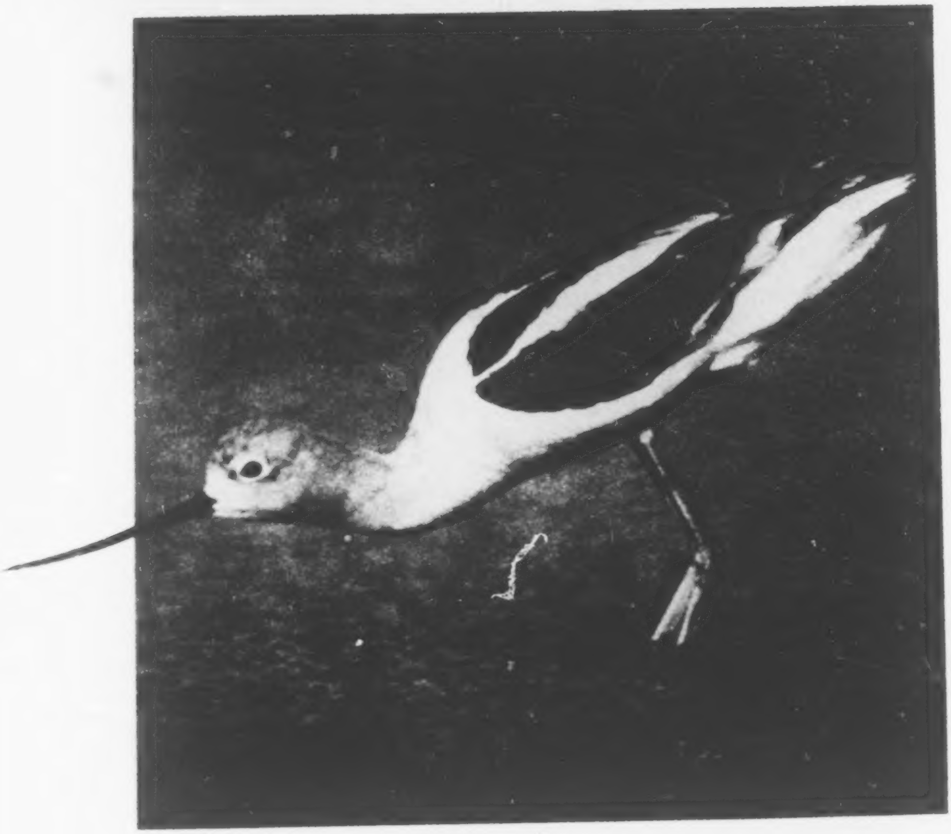
The existing regulatory programs will necessarily continue to be an important component of the nation's wetlands protection efforts. However, these programs could be operated much more efficiently and effectively than they have been. They could be modified to provide more effective control over wetlands alterations while simultaneously reducing costs and frustrations (particularly those stemming from such procedural problems as unnecessary delays, inconsistency, and complexity) that they impose on both owners and users of wetlands. These modifications should not, however, compromise the intent of the programs.

The Corps, EPA, and other federal agencies involved in implementing Section 404 have devoted substantial effort to identifying and implementing some of the types of modifications that the Forum believes are important. These changes have already begun to reduce some of the problems. The Forum believes that its recommendations to establish a clear national wetlands protection goal and delegate primary wetlands regulatory responsibilities to the states will substantially reduce many of the problems that remain.

However, the Forum also believes that there are other improvements that should not wait for those basic changes. Some of these pertain to problems of inconsistency among and between regulatory agencies, and the public's confusion about the nature of the regulatory programs. Implementing the recommendations addressing inconsistent definitions would reduce many of these problems.

Regulatory agencies also need to issue clear guidance to their staff and the public on how the regulatory programs are to be implemented. Adequate guidance, supplemented by strong staff training, should help avoid the problem of the programs being interpreted differently in different offices or even by different individuals in the same office. In addition, the Forum recommends that:

- **federal and state regulatory agencies expand their efforts to educate the public about the nature of the regulatory programs and the benefits they provide.**



[illegible] Mac Boylan, U.S. Fish and Wildlife Service)

Implementing this and other Forum recommendations should help reduce the delays and frustrations that too often occur with the existing programs. However, in many cases these delays reflect the inadequacy of the resources available to the regulatory agencies for reviewing permit applications and implementing other aspects of the program. As a result, an agency's decision on a permit application to fill even relatively small amounts of less valuable wetlands can be delayed for months. Increasing the resources available to the program and encouraging more rapid review of permit applications for small conversions would help reduce these delays. Therefore, the Forum recommends that:

~ **to support the costs of more effective and expeditious implementation of wetlands regulatory programs, federal and state**

regulatory agencies consider charging individuals applying for wetlands conversion permits for at least part of the costs of processing these applications; and

- **Congress and state legislatures appropriate increased funds to the agencies responsible for implementing regulatory programs.**

The Forum also recognizes that long permit-processing periods reflect some basic inefficiencies in the regulatory system. Delays in making decisions represent real costs to the regulated community, yet these costs may not yield tangible benefits in terms of wetlands protection. The Forum believes that federal and state regulatory agencies should work to increase regulatory efficiency and direct savings to effective compensation for permitted losses.

Striped bass (Don Pfitzer/U.S. Fish and Wildlife Service)

Therefore, the Forum recommends that:

- **agencies consider establishing regional general permits which would allow the conversion of a limited amount of ecologically low value wetland areas in exchange for full compensatory mitigation. These permits would be issued only within the framework of an EPA-approved State Wetland Conservation Plan. The compensation required by the permit should be consistent with the cost of acquiring, restoring, and managing wetlands in a location and of a type similar to those covered under the permit.**

Prompt action on permit applications would benefit the regulated community, while compensation requirements would provide funding for advance or concurrent restoration of degraded wetland systems identified through the planning process. The Forum also strongly recommends establishment of mitigation banks as discussed elsewhere in the report.

The Section 404 program has suffered not only from excessive delays and confusion. Inadequate enforcement has also caused problems, as have regulations that allow individuals to avoid regulatory jurisdiction by destroying or removing the natural vegetation or by otherwise altering a wetland's characteristics to convert valuable wetlands in blatant defiance of the law's intent. The enforcement problem results from certain ambiguities in the law and the implementing regulations, unclear enforcement strategies, inadequate resources, and shared enforcement authority between two line agencies and the U.S. Department of Justice. In response to these problems, the Forum recommends that:

- **the regulatory authorities take any necessary action, including amending existing regulations, to prevent the willful alteration of wetland characteristics to circumvent regulatory jurisdictions;**
- **to ensure that regulatory decisions are properly implemented, the Corps and EPA agree on strategies for effectively monitoring, verifying, and enforcing permits; and**
- **Congress allocate increased resources to the regulatory agencies and the Department of Justice.**

The present Justice Department policy that all civil penalties must be returned to the federal treasury instead of being used to restore or acquire wetlands also restricts the money that might otherwise be available to further the Forum's goals. In many cases, these fines result from illegal alterations where no compensation has been provided. The Forum recommends that this policy be changed and that federal and state prosecutors be encouraged to dedicate a portion of civil penalties collected under wetland regulatory programs to wetlands acquisition and restoration to offset wetland losses resulting from illegal activities. Fines not so dedicated in court settlements should be placed in permanent funds to be used by the U.S. Fish and Wildlife Service or equivalent state agencies for wetlands acquisition, restoration, and creation.

Some problems require additional information before they can be adequately resolved. Research and information recommendations made elsewhere in this report address many of these problems. Two research topics that are directly related to making the regulatory programs more effective are improvements in methods for assessing the functional values of wetlands and evaluating the cumulative effects of permitted losses in regulatory decisions. On these topics, the Forum recommends that:

- **federal agencies devote increased attention to research on and development of techniques for measuring the functional values of wetlands to allow better consideration of these values in regulatory decisions; and**
- **EPA and the Corps, in association with the Fish and Wildlife Service, continue their high priority research effort to develop methodologies for taking problems of cumulative losses into account in regulatory decisions.**

IMPROVING MITIGATION POLICIES

The term *mitigation*, as used in federal environmental policies, is broadly defined to include avoiding, minimizing, rectifying, reducing, eliminating, or compensating for adverse environmental effects.[18] In wetlands protection, mitigation can include changing project plans or selecting alternative sites to avoid or reduce adverse impacts, using preferred construction or management practices to reduce on-site and off-site effects, and compensating for unavoidable wetlands losses by creating or restoring other on-site or off-site wetlands areas.

Depending on circumstances, mitigation may be required as a condition of: 1) federal permits issued under Section 404 and other laws; 2) federal projects subject to the National Environmental Policy Act (NEPA), the Fish and Wildlife Coordination Act, or the Executive Order on Wetlands; 3) licenses issued by the Federal Energy Regulatory Commission (FERC); or 4) state or local regulation of private activities.

Mitigation is usually not required under federal law for many inland wetlands conversions for agricultural uses, losses that represent the continuing effects of past actions or natural processes, most types of chemical contamination or biological alteration, and any dredge or fill operations not covered by the Section 404 permit process.

Limited information is available on the current extent of mitigation requirements, and less exists on their effectiveness. The Office of Technology Assessment (OTA) has estimated that, in each of the years 1980 and 1981, Section 404 permit applicants originally proposed the alteration of about 100,000 acres of wetlands. Permit processing resulted in the avoidance of 50,000 acres of wetland losses annually. For the 50,000 acres that were allowed to be converted, only 5,000 acres of compensatory mitigation were required. Thus, 90 percent of the permitted losses were uncompensated.[19]

Several federal and state agencies have developed mitigation policies related to their wetlands protection responsibilities, but many significant issues remain unresolved.

If the nation is to achieve the recommended goal of no overall net loss and an eventual increase in its wetlands base, federal, state, and local agencies will have to adopt more effective and coherent mitigation policies. The Forum recommends that these policies include the following:

- **a clear preferred sequence of mitigation options that begins with avoidance of adverse effects on wetlands and the reduction of unavoidable adverse effects and allows compensation only as a last resort, as long as regulators have sufficient flexibility to select the options that best protect the most desired functional values of the resources;**
- **the principle that mitigation policies be implemented in such a way as to prevent any net loss of wetlands resulting from alterations covered by regulatory programs;**
- **the establishment of wetlands mitigation banks, consistent with State Wetlands**

IMPROVING REGULATORY PROGRAMS

Okefenokee Swamp, *Georgia* (Leonard Lee Rue IV)

Conservation Plans, to which permittees could contribute, where permit review determines such contributions to be appropriate, to satisfy any compensation requirements that are imposed on them (these banks, which could be developed by government agencies, corporations, or nonprofit organizations, should only include restored or newly created wetlands, and the restoration and creation of the banked wetlands should, to the extent feasible, precede the compensated losses);

- **the clear assignment of responsibility for monitoring and reporting on the success of mitigation efforts (including mitigation banks) and accountability for taking corrective action if the mitigation efforts are unsuccessful (the assignment of accountability should recognize the scientific uncertainty associated with some types of restoration and creation projects and the need to improve the information base and technical guidance for such mitigation efforts);**
- **effective procedures for enforcing mitigation requirements or otherwise ensuring that they are carried out;**
- **a "one-stop" process including responsible federal, state, and local agencies for coordinating decisions regarding what compensation will be provided for unavoidable losses. This process should be carefully integrated into the rest of the permitting processes so as to minimize confusion and delays; and**
- **a preference that, to the extent feasible, any required compensation be undertaken: 1) before the permitted wetlands alterations occur, 2) on or near the site of the permitted losses, and 3) consistent with the guidance provided by relevant advanced planning processes.**

FILLING REGULATORY GAPS

Patching current regulatory programs, while certainly important, can only ameliorate some of the problems. Many wetlands alterations are not adequately addressed in the current implementation of regulatory and nonregulatory programs, most of which focus only on land-use changes, chiefly filling. Some people believe that these regulatory gaps represent a lack of commitment by government agencies to exercise existing legal authority, while others believe that current gaps reflect a lack of statutory authority and inadequate funding. In either case, the current regulatory focus can miss other major causes of alteration, such as excavation, drainage, the destruction of vegetation, and the driving of pilings. Therefore, the Forum recommends that:

federal and state regulatory programs explicitly address, if they do not now include, the following activities in wetlands:

- **removal or excavation of soils;**
- **drainage or flooding;**
- **destruction of plant life; and**
- **driving of pilings and placement of other obstructions.**

The Forum recognizes that certain operations may involve these activities but, due to the size or nature of conduct of the operation, may not result in significant or lasting alterations of wetlands. The Forum recommends that regulatory programs recognize these differences in magnitude or duration of impact. The Forum also does not intend for this or any of its other recommendations to modify the existing exemptions from permitting requirements extended to normal farming, silviculture, and

Blackwater National Wildlife Refuge, Maryland (K. L. Cooney)

ranching operations under Section 404(f) of the Clean Water Act.

Changes in the water regime are responsible for substantial amounts of both diminished wetlands acreage and diminished wetlands functions. Flood control projects divert water from riparian wetlands. The construction of reservoirs and drainage channels, the channelization of natural streams along with surface water diversions, and excessive groundwater pumping have also probably dried up a substantial amount of wetlands. As water supplies diminish, only certain types of particularly hardy riparian vegetation can survive; in time, they too die. Finally, water often is drained from wetlands as the first step in converting them to agricultural use.

In the more arid regions of the country, the lack of water for wetlands is a serious problem as well. In many cases, such as California's Kesterson Reservoir, the solution to water quality problems in wetlands may be to obtain the rights to an adequate supply of fresh water. All 17 western states now have legal provisions allowing the government to acquire rights to instream flow, but it is not clear whether these rights pertain to water for wetlands.

In short, the most glaring gap in the current protection schemes is the substantial amount of alteration resulting from various forms of hydrologic change. Thus, the Forum recommends that:

- **federal and state governments adopt a comprehensive set of policies to control the impacts of hydrologic modifications on wetlands; and**
- **states that have not already done so consider legislation designating the maintenance, enhancement, and restoration of wetlands as a beneficial use of water.**

Some of these changes could be integrated with existing government programs, including those involving water resources development and the federal floodplain insurance program. For instance, the Corps has developed procedures for designing flood control projects that emphasize techniques that avoid, reduce, or minimize damage to wetlands. The Corps should provide increased technical assistance and early consultation with flood control permit applicants to acquaint them with such alternatives.

Chemical alterations also can be closely bound up in the hydrologic regime. The Kesterson National Wildlife Refuge in California has been closed because it became so contaminated by selenium and other contaminants in the irrigation return flow it received. It may be only the first of a number of wildlife refuges and management areas containing wetlands to suffer this fate. Similarly, wetlands downstream from older industrial areas may be accumulating high levels of toxic substances from industrial and urban surface runoff, and wetlands downstream from intensively farmed areas may be receiving significant inflows of pesticides.

Much of this chemical contamination could be controlled by existing federal and state water pollution control laws. Contamination caused by municipal and industrial wastewater discharges could be addressed under the Clean Water Act and corresponding state legislation. Proper implementation of the nonpoint-source pollution control provisions in the Water Quality Act of 1987 would help to deal with the substantial problems that remain. The Forum specifically recommends that:

- **EPA and the state water pollution control agencies review the implementation of their water quality programs to ensure that they are offering adequate protection to the chemical integrity of wetlands, considering both point and nonpoint sources; and**
- **federal and state soil conservation programs give increased consideration to implementing soil conservation activities where they will help protect downstream wetlands areas from sedimentation and chemical contamination.**

EPA should encourage state agencies to include action plans for protecting the chemical integrity of the state's wetlands in the annual operation plans that provide the basis for EPA awards of state grants. If appropriate, the states also should establish water quality standards that adequately protect sensitive wetlands and should review the adequacy of existing point- and nonpoint-source pollution control programs to protect vulnerable wetlands areas, particularly in water-quality-limited stream segments and in water bodies containing substantial wetlands areas. The Forum also recommends that states make more aggressive use of their state certification authorities under Section 401 of the federal Clean Water Act, to protect their wetlands from chemical and other types of alterations.

Immature beaver (Rex Gary Schmidt/U.S. Fish and Wildlife Service)

V. ESTABLISHING GOVERNMENT LEADERSHIP

Government agencies often work at cross purposes in activities affecting wetlands. While some agencies are implementing regulatory programs restricting the uses that owners can make of their lands, others are directly or indirectly increasing the likelihood that wetlands will be altered. The latter can cause the alteration of wetlands directly by undertaking or supporting projects in wetlands areas or indirectly by creating conditions that act as incentives for the private sector to develop such areas.

At the same time that these programs are limiting or stimulating the alteration of wetlands by private owners, still other government programs are acquiring wetlands, often in a haphazard manner. Even after these lands are in public ownership, however, they may not be adequately managed to protect their natural functions.

The federal government may be responsible for the largest number of such conflicting programs. But these conflicts are repeated at the state and local level. For instance, traditional zoning regulations—with inflexible setback requirements and excessive street width requirements—can cause unnecessary intrusion into wetlands. Clustering and flexible standards should be adopted to facilitate better site design and to avoid unnecessary filling or other alterations of wetlands. Other restrictive zoning requirements can increase the cost of a project, thus decreasing the developer's flexibility to preserve open space for wetlands.

If the United States is to protect its remaining wetlands, all government agencies at every level must exert more consistent leadership and exhibit better planning in their programs that affect wetland alterations and in the management of the wetlands that they themselves own.

REDUCING GOVERNMENT ALTERATIONS

Governments may directly cause the alteration of wetlands by undertaking or supporting construction projects in wetlands areas or in locations that disrupt an area's hydrologic regime. Of prime importance are water resources development and other public works investments (for instance, roads, airports, public buildings, recreational facilities, energy production and distribution systems, and water and sewer systems) that are located in and adjacent to wetlands. Construction of impoundments, levees, and highway embankments, however, may also create some new wetlands.

Water resource developments include single- and multiple-purpose dams and reservoirs and other types of flood control and navigation projects, including channelization. These developments can affect wetlands by interrupting supplies of necessary water, nutrients, and sediment, by flooding, or through the construction activities themselves.

Studies undertaken for the U.S. Department of the Interior evaluated the important role that such projects have had in wetlands alteration in the past. One such study concluded that flood control and drainage projects of the U.S. Army Corps of Engineers (Corps) and U.S. Soil Conservation Service have been the single most significant cause of wetlands losses in the Mississippi Delta region, responsible for at least 25 percent of the 6 to 7 million acres of losses that have occurred there since 1935.[20]

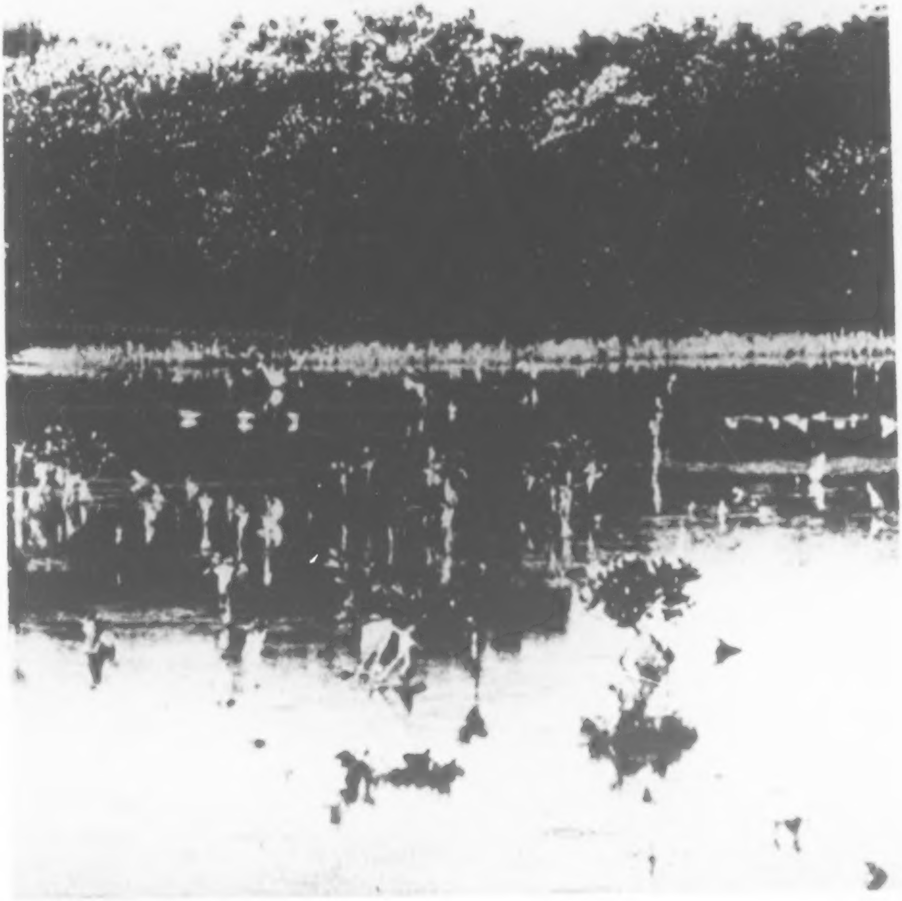
Other investigators have found similar impacts in coastal Louisiana as a result of flood control, navigation, and hurricane protection projects; in the Central Valley of California as a result of U.S. Bureau of Reclamation and state irrigation projects; and in other parts of the country.

The federal government has adopted a number of policies aimed at reducing the direct effects of its activities on wetlands. Relevant authorities include the National Environmental Policy Act (NEPA), the Fish and Wildlife Coordination Act, Executive Order 11990 on the protection of wetlands, and the Water Resources Development Act of 1986, which includes requirements for mitigation of adverse effects on wetlands. In some coastal areas, the Coastal Barriers Resources Act (CBRA), which makes new development projects in designated areas ineligible for most federally financed assistance programs, is also important. Some states also have NEPA-type laws or other wetlands protection policies.

The Forum recommends federal and state governments move vigorously to exercise these existing authorities to require or themselves initiate mitigation, including compensation where losses cannot be avoided, for the direct and indirect conversions caused by water resource, highway, and other facilities that public agencies construct, sponsor, support, or license. These governments should also use these authorities to require or themselves initiate mitigation, including compensation for impacts caused by the maintenance, operation, or improvement of such facilities. To support these efforts, the Forum recommends that:

- **Congress consider legislation, generally modeled after the Coastal Barriers Resources Act, that would restrict federal support for activities in particularly valuable wetlands areas;**
- **the U.S. Environmental Protection Agency establish and implement procedures for verifying compliance with wetlands mitigation provisions identified in federal environmental impact statements; and**
- **federal agencies recognize the costs of satisfying state wetlands mitigation requirements established by state statute as legitimate project costs in any project subject to federal cost sharing.**

In addition, the Forum recommends that federal and state governments evaluate their current operating procedures and practices for



Regenerating mangrove, Florida (U.S. Fish and Wildlife Service)

existing public facilities to identify and implement practicable alternatives or changes that would benefit wetlands. In particular, the Federal Highway Administration, in association with the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service, should undertake a study to determine the extent to which federally supported highway

Canoeing in Okefenokee Swamp, Georgia (William C. Kent/U.S. Fish and Wildlife Service)

drainage systems are used, or have been used, to drain wetlands areas. Should the study confirm that such drainage is an important factor in the continuing alteration of the nation's wetlands, these agencies should develop and implement a plan for eliminating the problem in the future and compensating for wetlands losses caused by such drainage in the past.

REDUCING GOVERNMENT INDUCEMENTS

In addition to these alterations that governments may directly cause, agencies should also be concerned about incentives their programs provide that may be inadvertently promoting wetlands conversion. Income and property tax provisions established to encourage new investments may encourage the use of these investments to alter or convert wetlands areas. Government low-interest investment loans to farmers, business people, and homeowners can have the same effects. Government floodplain insurance may encourage the development of wetlands in floodplains.

Government investments in roads, airports, water supply and wastewater systems, flood protection, navigation, and other infrastructure can also induce wetlands conversions in the surrounding areas. Providing flood protection to a riparian area makes commercial and agricultural development of these lands feasible. A new interstate highway will stimulate new development at every interchange. Interceptor sewers will encourage new residential development along their paths.

Government land-use control and other regulatory programs, even though undertaken for completely different purposes, may also create incentives for wetlands conversion. For instance, large building-setback requirements from roads or lot lines at the local level may encourage developers to build houses in backlying wetland areas.

No one can say precisely how important these indirect inducements to wetlands conversion have been in the past or will be in the future. But some reports indicate that they may have been substantial. For instance, studies for the U.S. Department of the Interior indicate that transfer payments such as agricultural price and income-support programs have significantly increased the profitability of draining wetlands in the Prairie Pothole region of the upper Midwest, in the Mississippi River Valley, and in other parts of the country.[2] Tax incentives and regulatory programs also may have had significant effects, although they have not yet been studied in any detail.

The federal government has recently taken steps to remove some of the most important inducements to wetlands conversion. The Tax Reform Act of 1986 eliminated most of the special tax advantages that accrued to farmers and developers for new investments, particularly in wetlands areas. The Food Security Act of 1985 included a "swampbuster" provision that makes farmers ineligible for agricultural income-support programs if they convert wetlands and plant commodity crops on them. The Coastal Barriers Resources Act of 1982 withdrew all federal subsidies for development on designated coastal barrier islands and beaches, where wetlands are a critical feature of the environment. These actions have reduced some of the most important financial incentives for wetlands conversion provided by the federal government.

The Forum supports vigorous and consistent implementation of these existing efforts to reduce the incentives for wetlands conversions created by government programs. In addition, the Forum recommends that:

- **no area be brought into government flood insurance programs until the localities to be benefited have taken adequate steps to protect any wetlands in the flood-protected area from subsequent conversion;**
- **state and local floodplain management programs explicitly incorporate wetlands protection elements; and**
- **local governments examine their full range of development controls to identify and modify those that unintentionally promote wetlands conversion.**

The Forum also recommends that, even if capital gains provisions of the Tax Reform Act are modified, the prohibition against treating as capital gains the increased land values of wetlands converted to agriculture continue. Congress should also specifically extend this prohibition to all types of conversions, not just those in the agricultural sector.

Finally, the Forum recommends that additional studies be undertaken to determine the importance of government inducements. Most important, the General Accounting Office should undertake a study to assess the effectiveness of the "Swampbuster" provisions of the Food Security Act in eliminating the conversion of wetlands for agricultural purposes.

Additional studies should also be undertaken by the U.S. Department of the Interior to determine the likely future importance of federal, state, and local government inducements that are not adequately covered in the studies recently carried out in accordance with the Emergency Wetlands Resources Act.

ACQUIRING AND MANAGING WETLANDS

The acquisition of wetlands, either by government or by private groups, is usually the most secure method of ensuring their continued protection. The federal government has acquired and preserved millions of wetland acres in wildlife refuges, parks, wilderness areas, and other protected lands. States, localities, corporations, and nonprofit organizations also have acquired and protected substantial wetlands acreage. In many cases, this acreage has been obtained under programs established to preserve open space and for other environmental purposes, and not specifically for the purpose of protecting wetlands.

Most acquisitions are in "fee simple"; that is, the acquiring institution obtains total ownership and responsibility for the land. However, increasing attention is being given to the acquisition of partial property rights such as conservation easements. Under such mechanisms, a landowner retains the basic ownership and use rights for the land but gives up the right to develop or alter it. This type of approach can preserve many of the functions that wetlands provide at a lower cost to the acquiring institution and without many of the management and political problems that may accompany fee simple acquisition.

Two questions that relate to all acquisition programs are: 1) which wetlands should be acquired, and 2) how should the acquired wetlands be managed. The Emergency Wetlands Resources Act of 1986 increases the amount of federal funding authorized for wetlands acquisition. The act also requires the FWS to prepare a National Wetlands Priority Conservation Plan that sets priorities for that agency's wetlands acquisition programs (except those funded under the Migratory Bird Conservation Act), along with those of other federal and state agencies making use of Land and Water Conservation Fund monies for wetlands acquisition.

The same legislation requires states to include a wetlands acquisition element in their State Comprehensive Outdoor Recreation Plans. These plans are required under the provisions of the Land and Water Conservation Fund, which provides grants for state acquisition of recreation and other open-space lands. Organizations such as The Nature Conservancy have also established their own wetlands acquisition priorities. As a result of these initiatives, future acquisition may be more rational than efforts have been in the past. In pursuit of this goal, the Forum recommends that:

~ **government agencies clarify and better coordinate their roles and responsibilities in acquiring wetlands; and**

~ **these agencies, both alone and in partnership with the private sector, accelerate their acquisition of the most valuable wetlands.**

At the federal level, the FWS and other federal agencies involved in wetlands acquisition (for example, the Forest Service and the National Park Service) should issue statements of "roles and responsibilities" for wetlands acquisition. The federal government also should review its inventory of wetlands to: a) identify current holdings that would be owned and managed more appropriately by state or local government or the private sector; and b) identify important gaps where additional wetlands should be acquired to protect key wetlands areas, types, values, or landscape elements.

Federal and state governments should consider acquiring damaged wetlands that have potential for restoration or enhancement, as provided for in the U.S.Department of the Interior's National Wetlands Priority Conservation Plan. In some cases, such as agricultural lands acquired by the U.S. Department of Agriculture through loan defaults, these lands can be obtained relatively inexpensively. With expertise available at the federal and state level, they can perhaps be made as productive as undamaged wetlands.

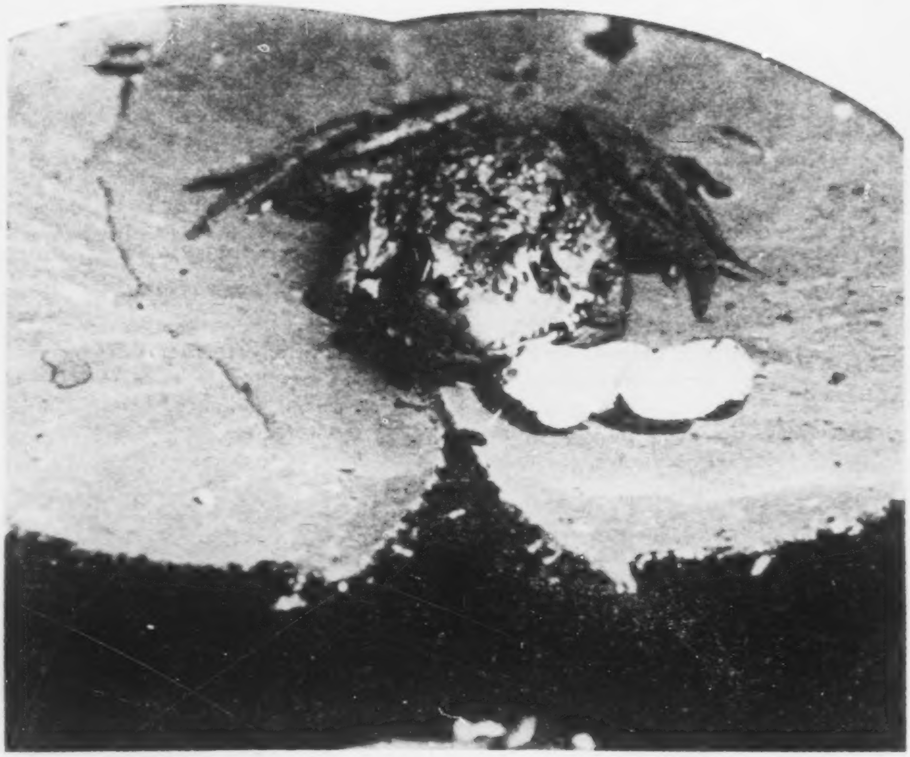
At the state and local level, state parks and recreation agencies should actively involve the full range of state agencies having responsibilities related to wetlands and their functions in the process of developing selection criteria and setting acquisition priorities for their state wetlands acquisition plans (included in their State Comprehensive Outdoor Recreation Plans). And, where they have not done so, state and local governments should work together to develop and implement wetlands acquisition plans.

The way in which government agencies manage their land holdings also can have substantial impacts on the wetlands they include. The federal government owns and manages approximately one-third of the nation's land area; state and local governments another 7 percent. The holdings and, therefore, the impacts of their management are most extensive in the western United States and Alaska.

In some cases these lands are not managed adequately to protect their wetland values. In others they may be intensively managed for very limited purposes, although they may provide other benefits as well. For instance, many federal refuges are managed primarily to provide habitat for migratory waterfowl and, in many cases, for a particular waterfowl species. Other wetlands may be managed for other purposes such as recreation.

The Forum recommends that government agencies take the following steps to improve the management of the wetlands they own:

- **all government land-holding agencies should, in cooperation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, undertake a full inventory of the wetlands on their lands and develop a management plan that will ensure the continued protection and enhancement of these areas;**
- **any government agency owning or managing wetlands areas or upland areas important to the effective functioning of nearby wetlands should manage these resources so as to preserve and enhance them; and**
- **all government agencies owning wetland areas should explore the feasibility of establishing partnerships with the private sector for the management of these areas.**



Green frog (Irene Vandermolen)

VI. PROVIDING BETTER INFORMATION

No management system can be better than the information on which it is based. This is particularly true in the case of wetlands, which are often very sensitive ecological systems involving complex biological, chemical, and physical relationships. The information currently available about wetlands is often incomplete and uncertain. An effective wetlands protection and management program demands better information about how wetland ecosystems operate, how they perform their diverse functions, how these functions should be measured, how wetlands values and ecosystem stability are affected by various types of threats, and a host of other factors related to the characteristics of the resource.

One significant information gap is simply knowing where the wetlands exist. Landowners may not even be aware that their property contains wetlands potentially subject to regulation, much less the boundaries of these areas. The U.S. Fish and Wildlife Service (FWS), in cooperation with state agencies, is preparing a national set of wetlands maps that will help substantially in eliminating this gap. But its maps are not directly transferable to regulatory decisions. In addition, most mapping, being based on aerial photographs, needs to be field verified, and more effort is needed to communicate the information to local governments and individual landowners.

The Forum supports the continuation and improvement of the current mapping efforts and recommends that the responsible federal and state agencies:

- **increase the resources being devoted to these efforts;**
- **clarify the value and utility of these maps;**
- **ensure that mapping is being done accurately and at a scale most useful for wetlands protection efforts;**
- **work toward developing a coordinated inventory, mapping, and reporting system that is useful to the regulated community and that has been carefully verified on the ground; and**

- **communicate the results of these efforts to local landuse planning and control agencies and to individual property owners.**

The United States also needs much better information on the condition of its wetlands resources, the rate at which they are being altered, the types of alterations, and the causes of these alterations. A major problem is that current survey efforts are too infrequent; only one national survey has been completed, and this is being updated only once a decade. Particularly in regions where wetlands are being lost rapidly, where they are under substantial threat, or where they are of unusual value, more frequent assessments are essential to an effective protection and management program. Therefore, although the Forum supports current federal, state, and local efforts to analyze wetlands resources and trends, it recommends these efforts:

- **focus on regions where wetlands are being lost rapidly, are subject to substantial threat or stress, or are identified in State Wetland Conservation Plans as being particularly valuable;**
- **report more frequently, preferably every one or two years, on trends, using a subsample of the current national sample, with particular emphasis on those areas under greatest stress or deemed particularly valuable; and**
- **develop a computerized information system that will make the results of the inventory and trend analyses more widely available.**

Current surveys also provide little information about the types and causes of alteration. Some major types of alteration, such as chemical contamination, are likely to be missed entirely by the survey techniques now used, and the survey data allow no more than crude estimates of the types of activities responsible for alterations. It would be very expensive to collect such information nationwide. However, such analyses conducted at representative sites, particularly in areas of rapid loss or high value, would provide very useful information. Therefore, the Forum recommends that the FWS, in association with other agencies, carry out research on ways to improve wetlands inventory and trends assessments in the following ways:

- **in addition to monitoring the physical changes that can be more easily identified in aerial photographs, develop methodologies to consider chemical, biological, and other types of alterations;**
- **include trend information about the causes and degrees of alterations, as well as the fact that the lands have been altered; and**
- **develop methods enabling trend information to reflect losses of certain functions, particularly in regions subject to significant stress.**

Another significant information gap relates to the effectiveness of existing protection techniques. Little is known even about the effectiveness of the Clean Water Act's Section 404 program in controlling wetlands alterations. Much less is known about the effectiveness of various nonregulatory programs. To design and implement a better protection system, government agencies need to learn much more about the effectiveness of the tools they already have available. The Forum therefore recommends that:

- **federal and state agencies develop information systems and undertake research**

on the effectiveness of existing and potential regulatory and nonregulatory policies for wetlands protection; and

- **wetlands regulatory agencies institute a system for monitoring and recording permitted alterations and evaluating whether conformance with permit stipulations truly protects the wetlands resource.**

Substantial additional research is also needed on the attributes of the wetlands themselves and how these ecological units function. The need for such research, emphasized throughout this report, is particularly great because of the wide diversity of wetlands across the country. For example, better understanding of Virginia coastal wetlands will provide little insight into the characteristics of that state's bottomland hardwoods, much less the West's riparian wetlands or Alaska's tundra wetlands. Therefore, the Forum recommends that:

- **the federal government initiate a National Wetlands Research Program to promote better understanding and better dissemination of information about the functioning of wetlands ecosystems in order to improve the effectiveness of the nation's wetlands programs. Key areas of research should include functions and values of wetlands, the assessment of cumulative impacts, the effectiveness of protection programs, and restoration and creation techniques.**

One major area requiring additional research and information relates to the restoration and creation of wetlands. The scientific uncertainty surrounding this subject is a major impediment to efforts to develop well-founded mitigation policies and to make informed decisions about investments in restoration and creation projects for their own sake. Thus, the Forum recommends that the federal government:

- **implement a substantially expanded Wetlands Restoration and Creation Research Program to improve understanding of both the art and science of wetlands restoration and creation with this program carried out in close cooperation with state agencies and nongovernmental organizations;**
- **support cooperative public and private funding for demonstration projects and other forms of coordinated research, particularly for evaluation of long-term success; and**
- **carefully monitor and evaluate the ability of restored or created wetlands to provide the functions intended, and make this information available through a wetlands restoration clearinghouse.**

Snowy egret and young (Leonard Lee Rue III)

VII. RESTORING AND CREATING WETLANDS

The United States cannot attain a goal of no net wetlands losses, much less the goal of increasing the wetlands base, without initiating active programs of wetlands restoration and creation. Wetlands restoration involves either improving the condition of existing degraded wetlands so that the functions they provide are of a higher quality or reestablishing wetlands where they formerly existed before they were drained or otherwise converted. Wetlands creation is much more uncertain because it involves creating new wetlands where they do not now exist and have not existed in recent times.

Restoration has been practiced for years, either in the context of mitigation for the adverse effects of development projects on wetlands or in the enhancement of wildlife (primarily waterfowl) habitat. Recently, government agencies have undertaken some projects aimed at restoring wetlands on a grander scale. A notable example is the restoration of thousands of acres of floodplain marsh along Florida's Kissimmee River.

Scientists generally agree that no wetland can be duplicated exactly. Evidence indicates, however, that with good information about the characteristics of the original wetland (especially its hydrology), careful design, and sufficient attention to monitoring and maintenance, some types of wetlands may be restored or created to provide many of the same functions.

Certain types of wetlands—high salt marshes, for instance—are more difficult to create than others; some, such as forested wetlands, require a long time to regenerate; while others, such as some freshwater emergent marshes, may be restored to their full functional status relatively quickly. In restoration and creation projects where the degree of success in the short term has been measured, about half have failed in some respect.[22] Long-term success is difficult to assess at this time because few studies exist evaluating the sustained replication of multiple wetlands functions.

The success of restoration efforts in reproducing original wetlands functions may also differ from one function to another. Information on the degree of success achievable is limited because few attempts have been made to identify functions before wetlands are altered. Moreover, the ability to evaluate restoration efforts is severely limited because readily usable, accurate techniques for measuring or monitoring functions do not exist. However, some functions (flood storage and waterfowl habitat, for instance) are unlikely to be as difficult to create and monitor as others (for instance, groundwater recharge or sediment control).

The creators and restorers of wetlands must overcome a range of potential problems. Failure may result from poor planning or design, inexperienced or untrained workers, the invasion of undesirable vegetation, inadequate monitoring or maintenance, lack of good guidance, insufficient financial resources, and poor understanding of the replaced wetland or general wetlands parameters. The most basic problem appears to be establishing the proper hydrologic conditions. With adequate staff and funding, agencies may address some of these problems and increase the probability of success, but some uncertainty will remain.

The research recommended in the previous section should help reduce many of the uncertainties related to restoration and creation. It is important, however, that the results of this research be carefully interpreted and made available in the form of scientific guidance. Thus, the Forum recommends that:

- **the National Academy of Sciences convene a committee, including representatives from the relevant federal and state agencies, to develop basic technical guidance, with periodic updates so that it reflects the most up-to-date scientific information, for designing restoration and creation projects. This effort should also coordinate research activities on restoration and creation, including those related to restoration projects undertaken in response to the mitigation requirements imposed by regulatory programs, as well as private or government-sponsored restoration and creation projects.**

The need for additional research, however, should not deter current restoration and creation efforts. The nation must begin the process of restoring its wetland base even with the current imperfect knowledge. As more information is acquired on successful techniques for wetlands restoration and creation, the regulatory agencies should upgrade guidance and training materials to ensure that the results will be used.

Government agencies should seize opportunities to integrate wetlands restoration and creation into their current programs. Such opportunities may be found, for example, in the disposal of dredged material, reservoir operation and maintenance activities, the cleanup of hazardous waste sites, strip mine reclamation projects, and the construction and maintenance of highways. To promote increased amounts and more effective restoration and creation efforts, the Forum recommends that:

- **Congress establish wetlands restoration and creation as part of the mission of the Corps of Engineers, the Bureau of Reclamation, the Soil Conservation Service, the Federal Highway Administration, the Tennessee Valley Authority, and other appropriate federal agencies; and**
- **these and the major federal land-owning agencies, in cooperation with the Fish and Wildlife Service and the National Marine Fisheries Service, organize a cooperative public/private Wetlands Restoration Initiative that would search out opportunities for restoring wetlands.**

This initiative should focus particularly on restoring wetlands: 1) on publicly owned lands; 2) in areas, as described earlier in this report, where wetlands were previously converted as a result of facilities that the government constructed, sponsored, supported, or licensed; and 3) in association with the construction of new facilities that the government constructs, sponsors, supports, or licenses. The restoration efforts should be carried out in cooperation with state wetlands management agencies and consistent with their planning efforts.

The government would be expected to pay most of the costs of this restoration initiative, but nongovernment organizations could also contribute or take over responsibility for the restoration projects. Project maintenance and construction funds could be used to support many of the restoration efforts associated with existing and new facilities. The Forum also recommends that the Fish and Wildlife Service consider using some of the proceeds of funding sources, such as the Migratory Bird Conservation Fund, to support this initiative. The Forum's proposed Agricultural Wetlands Reserve Program would also provide funding for wetlands restoration of agricultural lands.

One nationally important wetlands system that should be a focus of this initiative is the Louisiana Coast. As described earlier, this area is suffering extremely high wetlands losses from erosion and subsidence, largely as a result of government flood control and other water resource projects. Proposals for diverting Mississippi River sediment into this region to offset these losses should be developed and implemented.

The Forum also recommends that all restoration and creation projects carried out under this initiative or otherwise should incorporate an explicit component setting forth the maintenance, monitoring, and management activities that are to be carried out after the initial construction is completed to increase the prospects for the effort being successful.

Finally, because of the expertise needed to undertake successful restoration and creation projects, the Forum recommends that scientific associations develop criteria for certifying the credentials of individuals involved in wetlands creation and restoration.

Osprey (R. Harrington/Michigan Department of Conservation)

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VIII. FINANCING WETLANDS PROTECTION AND MANAGEMENT

Some of the Forum's recommendations will reduce government expenditures. Some involve using expenditures that might well be made anyway but that also serve the purpose of wetlands protection. But many of the Forum's recommendations will require increased government funding. At a time when all levels of government are facing tight budget constraints, recommendations for increased expenditures must be made very cautiously. The Forum believes, however, that in the case of adopting a better protection and management program for the nation's wetlands, these recommendations are justified by the substantial benefits they will provide.

While many of the increased costs of regulatory and other government protection and management programs will have to be met by larger budget appropriations, a variety of other innovative funding sources can be used, particularly several that are related to wetlands acquisition and subsidies to private owners for wetlands protection. The Migratory Bird Conservation Fund, which is funded primarily through the sale of duck stamps, is used to purchase small wetlands and prairie potholes for "waterfowl production areas." The Wetlands Loan Act allows Congress to appropriate funds for loans against the sale of future duck stamps. A provision of the Emergency Wetlands Resources Act of 1986 doubles the price of the federal duck stamp over the next five years, with most of the proceeds earmarked for wetlands acquisition.

The Land and Water Conservation Fund (LWCF), funded primarily from receipts for offshore oil and gas leasing and development, can be used by both federal and state governments to acquire wetlands. As a result of the Emergency Wetlands Resources Act, such acquisitions are now given the same priority as recreational areas. Since its inception in 1965, LWCF has provided nearly $7 billion.[21]

Coastal states can also use the financial assistance they receive from the federal government (most of which comes from oil and gas leasing revenues provided for under the Outer Continental Shelf Lands Act) to deal with impacts on wetlands from activities on the outer continental shelf.

A number of states also have adopted their own innovative funding mechanisms for acquisition and restoration. Over half the states have waterfowl stamps; 32 states have income tax checkoffs for wildlife (which generated a total of $8.4 million in 1985-1986);[24] Florida, Tennessee, South Carolina, Maryland, Arkansas, and Washington levy documentary and severance taxes; and Missouri directs one-eighth of 1 percent of its sales tax (about $50 to $60 million annually) to its Department of Environmental Conservation. California has used several general obligation bond acts to fund wetlands acquisition and restoration programs. A portion of the revenues generated from all these sources goes to land acquisition, including wetlands. Similar local and state tax revenues, such as the tourist impact tax being used in one Florida county, could be used to protect wetlands.

In addition to traditional revenue sources, such as property taxes, the Forum recommends that the federal and state governments explore opportunities for increasing revenue from sources tied to activities that use, degrade, or destroy wetlands areas. The Forum also recommends that these funds be available for restoration and creation activities and nonregulatory incentives as well as for acquisition. The Forum strongly supports approaches such as the proposed American Heritage Trust that would be financed by existing revenue from federal leases of offshore oil and gas. Other specific funding opportunities that should be explored include:

- permit fees;
- increased use of existing state oil and gas leasing revenues;
- the use of revenues currently deposited in the Highway Trust Fund that result from taxes on fuel used in home maintenance equipment and for other purposes that are not related to the use of highways or the operation of agricultural or commercial fishing equipment;
- state income tax checkoffs and permanent fund dividends, documentary and severance taxes, and dedicated portions of sales taxes;
- property transfer fees;
- state water pollution control program grants;
- surcharges on federal flood insurance; and
- general bond financing.

Making imaginative use of such revenue sources can provide much of the funding the United States needs to protect its remaining wetland resources and to begin to add to its wetland base. However, the Forum also recognizes that severe budgetary constraints may prevent federal and state governments from implementing all of the recommendations included in this report immediately. Therefore, although urging that those recommendations which can be implemented at relatively little cost be adopted quickly, the Forum realizes that the more costly proposals may have to be delayed until suitable funding sources are identified for their support or until the current budgetary constraints ease.

However, the Forum hopes that all levels of government will make every effort to fund all the recommendations in this report as soon as they can and that Congress will soon approve grants-in-aid to the states to assist them in carrying out the increased responsibilities called for in this report.

Any delay in adopting the full set of the Forum's recommendations will also be expensive. The existing regulatory and other protection programs are, as pointed out frequently in this report, imposing significant costs on all elements of society. And the nation can ill afford the continued erosion of its wetlands inventory. The continued loss of these valuable resources will deprive the nation of the substantial economic as well as environmental benefits they provide. And the costs of re-creating them in the future will be many times larger than the costs of preventing their continued disappearance. For all these reasons, it makes good economic as well as environmental sense for the country to implement the Forum's recommendations as rapidly as it can.

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NATIONAL WETLANDS POLICY FORUM

Recommendations for Federal Wetlands Legislation

October 1989

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NATIONAL WETLANDS POLICY FORUM

Recommendations for Federal Wetlands Legislation[1]

October 1989

Introduction

In the summer of 1987, at the request of the U.S. Environmental Protection Agency, The Conservation Foundation convened the National Wetlands Policy Forum, chaired by Governor Thomas H. Kean of New Jersey, to address major policy concerns about how the nation should protect and manage its valuable wetlands resources.

The Forum has attempted to draw into the process as many perspectives about wetlands protection and management as possible. It has been independent of established institutions and has attempted to step back from the fray of ongoing policy conflicts to take a broad view of how this nation can better protect and manage its wetlands resources. The 20 members of the Forum include three governors, a state legislator, and heads of state agencies; a town supervisor; chief executive officers of environmental groups and businesses; farmers and ranchers; and academic experts. In addition, senior officials from the five principal federal agencies involved in wetlands protection and management participated as ex-officio members. These officials supplied valuable information and insights but were not asked to endorse the Forum's recommendations.

Some of the Forum's recommendations can and should be adopted administratively by the agencies responsible for implementing existing wetlands programs. Other recommendations will require legislative action, mostly in the form of amendments to existing federal statutes. Although they may be enacted independently, the Forum considers its entire set of statutory recommendations, at all levels of government and in the private sector, to comprise an integrated package.

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[1] The purpose of this concept paper is to serve as the basis for broader public discussion of federal wetlands legislation required to implement some of the Forum's recommendations. A complete list of the Forum's recommendations can be found in the Forum's report ("Protecting America's Wetlands: An Action Agenda"), available from The Conservation Foundation, 1250 24th St., N.W., Washington, D.C. 20037; (202)293-4800. Written permission is not required for reproduction and distribution of this paper, if such reproduction and distribution is not for purposes of sale and so long as The Conservation Foundation and the National Wetlands Policy Forum are appropriately acknowledged.

The Forum's legislative proposals, combined with recommendations for administrative and private action, are important components of the comprehensive changes required to provide a basic framework for creating the effective, efficient wetlands protection and management program that the nation needs. However, more than just legislation is required. Everyone involved -- conservationists, industrialists, government officials, developers, farmers -- will have to cooperate in implementing the Forum's recommendations to make what is necessarily a complicated and difficult protection system work in a coordinated and comprehensive fashion, with less frustration and cost to all concerned.

The Forum's recommendations were developed recognizing that successful and equitable implementation will depend upon measures that increase the protection afforded wetlands occurring in tandem with measures to provide better information to landowners, incentives for private protection, and more efficient regulation. Thus, the Forum urges the pursuit of comprehensive rather than piecemeal implementation to ensure that the links are respected.

The Forum identified two broad areas as containing linkages particularly important to balanced implementation: improving regulatory programs and enhancing the quality and quantity of wetlands to offset future losses. For example, in order for compensatory mitigation required by regulation to be effective, sites and methods for restoration and creation of wetlands, mechanisms for ensuring equitable assignments of costs, and effective monitoring are needed. In addition, the expansion of regulatory programs should be linked to recommendations, such as facilitating advance planning, providing better information, providing incentives for the protection of wetlands in private ownership, and facilitating delegation of the regulatory program to the states, which would benefit private landowners and enable them to respond to additional requirements in a less burdensome fashion.[2]

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[2] For more information on the important linkages between Forum recommendations, please see Appendix A.

Scope of the Legislative Package

- establish a national wetlands[3] protection and management goal
- expand and strengthen federal regulatory programs to make these programs more effective while reducing costs, delays, and uncertainties
- encourage delegation of federal regulatory responsibilities to states that demonstrate adequate authority and capability to achieve the recommended goal and that have completed the preparation of State Wetlands Conservation Plans
- provide for financial and technical assistance to the states
- require that federal activities be consistent with approved State Wetlands Conservation Plans
- provide better incentives to private wetlands owners to protect permanently these resources for the public benefit
- provide incentives to encourage management practices compatible with overall wetlands protection
- allow for the establishment of nonprofit Wetlands Preservation Trusts
- create a National Wetlands Agricultural Reserve Program
- prevent federal agencies from supporting investments that would degrade particularly valuable wetlands
- undertake research on such topics as evaluating wetlands functions and values, categorizing and ranking wetlands, developing regional assessment methodologies, assessing

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[3] Although the National Wetlands Policy Forum has not drafted a definitions section for legislative purposes, it is important to note the importance of a single definition of wetlands for regulatory purposes. In January, 1989, the U.S. Army Corps of Engineers, Environmental Protection Agency, Fish and Wildlife Service and Soil Conservation Service announced agreement on a joint handbook on wetlands delineation methods for field personnel. This cooperative approach toward defining wetlands is an important, positive step towards the Forum's recommendation.

cumulative impacts, evaluating the effectiveness of protection programs and restoring and creating wetlands

Findings:[4]

The Congress finds that:

- Well-intentioned public and private efforts to provide flood protection, greater agricultural production, better highways, and other valued societal benefits have often led to drainage or filling of wetlands for farming, urban development, and industry.
- By the mid-1970s the nation had lost more than half of the wetlands present in the contiguous United States when European settlement began.
- Beneficial functions of wetlands include flood conveyance, barriers to waves and erosion, flood storage, sediment control, fish and shellfish production, habitat for waterfowl and other wildlife, habitat for rare and endangered species, enhancement of biological diversity, recreation, water supply, food production, timber production, historic and archaeological values, education and research, open space and aesthetic values, and water quality.
- Property containing wetlands is also valuable for uses which may require wetlands alteration or conversion. For example: facilities such as ports and marinas need to be adjacent to water; in some metropolitan areas, the only large, flat, open, centrally located parcels of available land contain wetlands, making them prime sites for shopping centers, industrial parks, airports, parks, highway and utility crossings, as well as smaller scale development activities; wetlands may overlie important oil, gas, and other mineral deposits or support valuable stands of timber; and in agricultural areas, wetlands may provide the only land that individual farmers can readily make use of to expand their crop acreage.
- Activities such as filling, draining, excavating, diverting water, clearing, flooding, diverting or withholding sediment, shading, conducting activities in adjacent areas, changing nutrient levels, introducing

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[4] To the greatest degree possible, the text of this legislative concept paper is intended to be converted as easily as possible into draft legislation. Thus, the "voice" is as if such an Act existed.

toxics, grazing, and disrupting of natural populations may alter wetlands functions.

- Some economic uses of privately owned wetlands are compatible with maintenance of the wetlands ecosystem. Nonexploitive uses such as leasing private wetlands for hunting, trapping, and fishing provide income to the property owner. In addition, appropriate silvicultural operations can be carried out without damaging the ecosystem. Good silvicultural management practices and the production of native wetland crop species can generate income without significant loss of wetlands functions.

- Benefits resulting from wetlands protection as well as the costs of their degradation tend to accrue more to the general public than to the owner of wetlands.

- Current regulatory and nonregulatory programs leave much to be desired. The programs have reduced, but not stopped, the overall decline in the nation's wetlands resource base. The programs have no consistent goal, and they often are implemented in a contradictory or uncoordinated manner. Recently, however, federal agencies involved in the regulation of wetlands have made progress in coordinating regulatory activities by adopting a single manual as the technical basis for identifying wetlands, in an effort to standardize the identification process and improve wetlands regulation.

Clean Water Act Amendments

- Establish national goal and policies

  - It is the policy of this Act to achieve no overall net loss of the nation's remaining wetlands base, as defined by acreage and function, and to restore and create wetlands, where feasible, to increase the quality and quantity of the nation's wetlands resource base. This goal does not imply that individual wetlands will in every instance be untouchable or that the no-net-loss standard should be applied on an individual permit basis -- only that the nation's overall wetlands base reach equilibrium between losses and gains in the short run and increase in the long term. The public must share with the private sector the costs of restoring and creating wetlands to achieve this goal.

  - Federal agencies shall emphasize the importance of planning for wetlands protection and management.

Relevant federal agencies shall support and participate in federal and state advanced planning for wetlands.

-- Wetlands policies shall recognize and encourage economic uses of privately owned wetlands that are compatible with maintenance of wetlands ecosystems and establish economic incentives to encourage landowners to manage, protect, restore, and enhance the wetlands resources that they own. Private landowners should be encouraged to pursue ecologically sound practices for such economic uses as silviculture in privately owned forested wetlands and wetland crops such as cranberries and blueberries.

-- Federal agencies shall provide improved government leadership for the nation's wetlands protection efforts by reducing wetlands alterations resulting from government programs, accelerating the rate at which government acquires the most valuable wetlands for permanent protection, improving the government management of wetlands already in public ownership, and restoring wetlands on public lands.

-- Federal agencies shall improve the quality and quantity of information about wetlands available to wetlands managers, landowners, researchers, and the general public.

-- Federal agencies shall expand the amount of effort devoted to wetlands restoration and creation in order to enhance and increase the nation's wetlands inventory.

-- Regulatory programs under this act shall provide more effective protection while reducing unnecessary frustrations and delays imposed on wetlands owners.

-- Federal agencies are directed to provide support and guidance for an increased role for the states both in the preparation and implementation of State Wetlands Conservation Plans and in the delegation of federal regulatory responsibilities.

-- It shall be the policy of this act to avoid and minimize wetlands alterations through the application of all practicable measures.

- State authority and responsibilities

  - -- States that demonstrate that they have the authority and capability to achieve the goals of this act and have completed State Wetlands Conservation Plans demonstrating how they will do so,[5] shall be allowed to assume permitting responsibilities under Section 404 of the Clean Water Act (including those in navigable waters and adjacent to wetlands) for permits that may affect navigable waters.[6] The Corps shall reserve its rights to protect navigation servitude and national defense but shall work with the states to confine its role to interstate and national issues and may enter into memorandums of agreement with states for this purpose.[7]

  - -- State plans shall establish a mechanism for achieving the goal of no overall net loss of the nation's remaining wetlands base, defined by acreage and function, in the short term and to restore and create wetlands, where feasible, to increase the quality and quantity of the nation's wetlands resource base, in the long term, based on balancing, at the state level,[8] unavoidable losses with public, private, and/or cooperative public/private restoration and creation programs, including those restoration, creation or other compensatory mitigation requirements imposed on permittees for losses associated with permitted alterations.

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[5] A discussion of what constitutes adequate authority and capability to achieve the goals of this Act and of a State Wetlands Conservation Plan can be found in a separate concept paper entitled "Elements of an Adequate State Program." A reasonable process and timetable for transition should be provided for states that have assumed responsibility for the Section 404 regulatory program or that have formally applied for delegation prior to the effective date of this Act.

[6] Forum members also believe that improvements can be made in the administration of the current federal 404 program.

[7] Section 10 of the Rivers and Harbors Act may also need to be amended for this purpose.

[8] Except where noted below.

-- States are encouraged to coordinate their implementation of the goal through substate regions or through interstate compacts for ecologically integrated areas.

-- Federal agencies shall have the discretion to monitor demonstrable and significant progress toward attaining the goal depending on the unique circumstances in each state, recognizing that the goal may have to be implemented at different rates in various regions of the country to reflect regional wetlands needs, conditions, and types. In some states (such as Louisiana) the magnitude of loss from natural factors or the continuing impact of past human activities makes the goal a target to work toward, not one that is attainable in the short term. Similarly, in Alaska, wetlands underlain by permafrost pose unique scientific challenges in deciding how to conduct successful wetlands restoration and creation which should be considered in trying to achieve the goal of no net loss as defined by acreage and function. In these areas, the responsible land management agencies and the respective state and federal agencies responsible for administering and approving wetlands permits should consider, as part of an approved mitigation plan, not only avoidance and minimization, but also compensation for unavoidable wetlands alterations. For the North Slope of Alaska, compensation of unavoidable wetlands alterations may be accomplished through the accelerated restoration of unused oil field facilities, provided the restoration is conducted as part of an approved mitigation plan. The role of this accelerated restoration in providing compensation for unavoidable wetlands alterations should be further delineated in discussions, among responsible agencies and interested parties, of compensation policy and mitigation plans.

-- States shall be allowed to assume discrete and clearly identifiable portions of the regulatory responsibilities as they develop the necessary capability rather than requiring the entire program to be delegated at one time.[9] The Environmental Protection Agency Administrator shall promulgate regulations setting forth appropriate guidelines for partial assumption of the program by states.

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[9] Examples of acceptable discrete and clearly identifiable portions of the regulatory program include watershed boundaries, political boundaries, and other geographic or physiographic boundaries.

-- Qualified states shall have programs consistent with and no less stringent than the existing federal regulatory program as modified by these recommendations, and subject to EPA oversight.

-- EPA shall exercise appropriate oversight over delegated programs to ensure that they are achieving their goals. The primary element of this oversight shall be an annual review of program performance. EPA shall withdraw program approval when a state program no longer complies with the requirements for an approvable program, if the state fails to take corrective action. EPA should normally not involve itself in the review of individual permits except to the extent necessary to exercise its responsibilities under Section 404(c) of the Clean Water Act or unless a permit exceeds criteria such as size or other measure of impact specified in a joint agreement developed by EPA and the state. EPA shall also exercise appropriate oversight over multistate wetlands resources.

-- Qualified states must establish an effective process for coordinating their review with the Corps of Engineers for permits that may affect navigation and national defense and with other federal agencies sufficient for them to carry out their responsibilities such as under the Endangered Species Act and the Fish and Wildlife Coordination Act and to protect interstate and multistate wetlands resources.

-- Federal activities shall be consistent with the State Wetlands Conservation Plans and delegated state programs after they have been approved by the Environmental Protection Agency. This requirement would be similar to that which now pertains to approved Coastal Zone Management Plans.

-- Congress appropriates funds to EPA, the Department of the Interior, and other federal agencies as appropriate, for financial and technical assistance to the states to help them in preparing and implementing their State Wetlands Conservation Plans and carrying out delegated wetlands regulatory responsibilities, including but not limited to advanced identification of wetlands, research on wetlands functions, implementation of wetlands restoration programs, assessing cumulative impacts, permitting, monitoring and enforcement.

- **Promoting Private Stewardship**

  -- Landowners should be encouraged to manage, protect, restore, and enhance the wetland resources they own through economic incentives such as tax incentives, subsidies, and inducements for shifting the location of proposed developments.

  -- Private landowners, including timber companies, should be encouraged to pursue ecologically sound silvicultural practices in privately owned forested wetlands.

  -- The Office of Technology Assessment should review the entire array of wetlands protection and management incentives and suggest modifications to those offered by the federal government to improve their effectiveness and coherence and to increase the permanence of protection they offer, and explore ways of encouraging state and local governments to provide additional incentives for private wetlands protection and management that are integrated with those offered by the federal government.

- **General Permits**

  -- Agencies involved in implementing Section 404 of this Act may establish regional general permits, which would allow the conversion of a limited amount of ecologically low value wetland areas in exchange for full compensatory mitigation. These permits shall be issued by the permitting authority only within the framework of an EPA-approved State Wetlands Conservation Plan, based on an inventory of wetlands types, functions, acreage, rate of alterations, and the technical capability to restore or create particular wetlands types, sufficient to define and identify "ecologically low value" wetlands, except that this shall not be interpreted to prevent permitting agencies from issuing regional general permits with requirements for compensatory mitigation consistent with current legislative authority under this Act.

  -- Where regional general permits are issued within the framework of an EPA-approved State Wetlands Conservation Plan, the Environmental Protection Agency shall establish a mechanism for monitoring the achievement of the goal of no overall net loss within the scope of each regional general permit and shall annually report the cumulative impacts of each regional general permit based upon information contained in the applications and compliance monitoring. The permitting agencies shall be responsible for monitoring the achievement of the goal within the scope of the regional general permits.

-- Once the regional general permits are in effect in the affected state or region, the regional general permits authorized by this act will supersede (in that region) Nationwide Permit 26 and other relevant general permits found to be inconsistent with the plan.

-- The compensation required by the permit shall be consistent with the cost of land acquisition and the restoration and management of wetlands in a location and of a type similar to those covered under the permit. Regulators shall have flexibility to select the location and activities that best protect the most desired functional values of the resources.

-- Applicants for permits under a regional general permit must specify how the mitigation conditions in the general permit will be met.

-- Where the conditions established under a regional general permit have been met, the permitting agency shall allow the activity if the activity is consistent with applicable law.

o Permit fees

-- Regulatory agencies may establish an equitable fee schedule for wetlands permits, the revenues from which will be earmarked to support the costs of administering wetlands regulatory programs.

o Enforcement of Federally Issued Permits

-- To ensure that regulatory decisions are properly implemented, the Corps and EPA shall develop strategies for effectively monitoring, verifying and enforcing federal permits.

-- Regulatory authorities shall take enforcement action to prevent the willful alteration of wetland characteristics to circumvent regulatory jurisdictions.

-- Fines collected from parties in violation of the wetlands provisions of this act shall be earmarked for wetlands conservation programs authorized in this act.

- **Mitigation**

  - -- All federal agencies issuing permits for actions in wetlands and all approved state plans shall provide a clear preferred sequence of mitigation options that begins with the avoidance of adverse effects on wetlands and the reduction of unavoidable adverse effects and allows compensatory mitigation only as a last resort, providing regulators have sufficient flexibility to select the options that best protect the most desired functional values of the resources.

  - -- Mitigation policies shall be implemented in such a way as to prevent any net loss of wetlands resulting from alterations covered by regulatory programs.

  - -- Wetlands mitigation banks, consistent with State Wetlands Conservation Plans, may be established by government agencies (or the private sector) to which permittees could contribute, where permit review determines such contributions to be appropriate, to satisfy any compensation requirements that are imposed on them. (These banks should only include restored or newly created wetlands, and the restoration and creation of the banked wetlands should, to the extent feasible, precede the compensated losses.)

  - -- Mitigation plans based on wetlands creation and restoration (including mitigation banks) must provide a clear assignment of responsibility for monitoring and reporting on the success of the mitigation effort and must provide for accountability for taking corrective action if the mitigation efforts are unsuccessful, recognizing the scientific uncertainty associated with some types of restoration and creation projects and the need to improve the information base and technical guidance for such mitigation efforts.

  - -- The permitting authority shall establish effective procedures for enforcing mitigation requirements or otherwise ensuring that they are carried out.

  - -- Permitting agencies should establish a "one-stop" process, including responsible federal, state, and local agencies, for coordinating decisions regarding what compensation will be provided for unavoidable losses. This process should be carefully integrated into the rest of the permitting processes so as to minimize confusion and delays.

  - -- Mitigation and compensation measures should be undertaken, to the extent feasible, before the permitted wetlands alterations occur, on or near the site of the permitted losses, and consistent with the guidance provided by relevant advanced planning processes.

- Scope of regulatory programs

  -- Section 404 of this act shall regulate, in addition to existing regulated activities, the following activities in wetlands: removal or excavation of soils; drainage or flooding; destruction of plant life; and driving of pilings and placement of other obstructions. Certain operations may involve these activities but, due to the size or nature of conduct of the operation, may not result in significant or lasting alterations of wetlands. Regulatory programs should recognize these differences in magnitude or duration of impact. This provision is not intended to modify the existing exemptions from permitting requirements extended to normal farming, silviculture, and ranching operations under Section 404(f) of this Act.

- Flood insurance programs

  -- No area shall be brought into government flood insurance programs until the localities to be benefited have taken adequate steps to protect any wetlands in the flood-protected area from subsequent conversion.

- Hydrologic modifications

  -- The appropriate federal agencies shall adopt a comprehensive set of policies to control the impacts of hydrologic modifications and shall develop guidance and provide technical assistance to states for the creation of comprehensive policies for controlling the impacts of hydrological modifications on wetlands.

Studies and Information Requirements

- The President shall submit a report to Congress every five years documenting the nation's success in achieving the wetlands protection goal and recommending what changes should be made in the nation's wetlands protection programs if this goal is not being realized.

- The U.S. Fish and Wildlife Service, in cooperation with the Environmental Protection Agency, U.S. Army Corps of

Engineers, National Oceanographic and Atmospheric Administration, Soil Conservation Service, and other federal agencies, as appropriate, shall report every two years on trends in the condition of the nation's wetlands resource, the rate at which they are being altered, the rate at which they are being created and restored, the type of alterations, and the causes of these alterations. These reports shall be based on a subsample of the current national sample, with particular emphasis on those areas under the greatest stress or deemed particularly valuable.

- The U.S. Fish and Wildlife Service, in cooperation with the Environmental Protection Agency, U.S. Army Corps of Engineers, National Oceanographic and Atmospheric Administration, Soil Conservation Service, and other federal agencies, as appropriate, shall work toward developing a coordinated inventory, mapping, and reporting system that is useful to the regulated community and that has been verified on the ground, and they shall develop a computerized information system that will make the results of the inventory and trend analysis more widely available.
- The Federal Highway Administration, in association with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, shall undertake a study, to be completed within two years, to determine the extent to which federally supported highway drainage systems are used, or have been used, to drain wetlands areas. If this study determines that such drainage is an important factor in the alteration of the nation's wetlands, these agencies shall develop and implement a plan for eliminating the problem in the future and compensating for wetlands losses caused by drainage in the past.

Research

- The Environmental Protection Agency, in consultation with the U. S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Oceanographic and Atmospheric Administration, the Soil Conservation Service, and other federal agencies, as appropriate, shall undertake research on the effectiveness of existing and potential policies for wetlands protection, and institute a system for monitoring and recording permitted alterations and evaluating whether conformance with permit stipulations truly protects the wetlands resource. EPA shall consult and coordinate with other applicable public and private research efforts.

- The Environmental Protection Agency, in cooperation with the U.S. Army Corps of Engineers, Fish and Wildlife Service, National Oceanographic and Atmospheric Administration, Soil Conservation Service National Academy of Sciences, and other federal agencies, as appropriate, shall initiate a National Wetlands Research Program to promote better understanding and better dissemination of information about the functioning of wetlands ecosystems in order to improve the effectiveness of the nation's wetlands programs. Key areas of research should include functions and values of wetlands, the assessment and management of cumulative impacts, the effectiveness of protection programs, improved understanding of linkages between upland activities in watershed and both on- and off-site wetlands, and restoration and creation techniques. EPA shall consult and coordinate with other applicable public and private research efforts.

- The Environmental Protection Agency, in cooperation with the U.S. Army Corps of Engineers, Fish and Wildlife Service, National Oceanographic and Atmospheric Administration, Soil Conservation Service, National Academy of Sciences, other federal agencies, as appropriate, states, and nongovernmental organizations, shall implement a substantially expanded Wetlands Restoration and Creation Research Program to improve understanding of both the art and science of wetlands restoration and creation. Information from this program should be made available through a wetlands restoration clearinghouse. EPA shall consult and coordinate with other applicable public and private research efforts.

Federal Agency Responsibilities for Management of Federally Owned Wetlands and Federal Projects

- All government land-holding agencies shall, in cooperation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, undertake a full inventory of the wetlands on their lands and develop a management plan that will ensure the continued protection and enhancement of these areas.

- Any government agency owning or managing wetlands areas or upland areas important to the effective functioning of nearby wetlands should manage these resources so as to preserve and enhance them, and should explore the feasibility of establishing partnerships with the private sector for the management of these areas.

- The restoration and creation of wetlands shall be added to the missions of the Corps of Engineers, the Bureau of Reclamation, the Soil Conservation Service, the Federal Highway Administration, the Tennessee Valley Authority, and other appropriate federal agencies.

Wetlands Restoration Initiative

- The Corps of Engineers, Environmental Protection Agency, Bureau of Reclamation, Soil Conservation Service, Federal Highway Administration, Tennessee Valley Authority and other federal agencies, as appropriate, in cooperation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, shall organize a cooperative public/private Wetlands Restoration Initiative to search out opportunities for restoring wetlands. The initiative shall focus particularly on restoring wetlands: 1) on publicly owned lands; 2) in areas where wetlands were previously converted as a result of facilities that the government constructed, sponsored, or licensed; and 3) in association with the construction of new facilities that the government constructs, sponsors, supports or licenses.[10]

CBRA Equivalent for Wetlands

- Congress should consider legislation, generally modeled after the Coastal Barriers Resources Act, that would restrict federal support for activities in particularly valuable wetlands areas.[11]

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[10] Public/private financing for the Wetlands Restoration Initiative could be modelled on an existing program such as the Cost Share Program (formerly the Challenge Grant Program) of the U.S. Forest Service, Bureau of Land Management and U.S. Fish and Wildlife Service.

[11] The Forum recommended that Congress consider CBRA type legislation, but left this language very general because the Forum did not have the time to work out specific details that are important to Forum members. Having approved state plans (as visualized by the Forum) in place prior to the implementation of a CBRA policy for wetlands would be an important factor in marshalling a consensus behind the enactment of such legislation.

Public Education

- Federal and state agencies along with private and nonprofit groups should expand their education and outreach programs to inform the public and landowners about the location of wetlands, the values these wetlands provide, regulations governing their modification, and the existence of financial incentives and other options available to protect and enhance them. Additional education efforts should provide local governments with technical assistance on what they can do in association with federal and state governments to encourage wetlands protection.

Agricultural Amendments

Amend 1985 Food Security Act, Title XII, Subtitle D (16 USC 3801 et seq.), Section 1231, or add a new Section, to incorporate the following concepts:

- During the 1991 through 1995 crop years, the Secretary shall formulate and carry out a national wetlands reserve program through contracts to assist owners and operators of cropland in protecting and managing wetlands and restoring former wetlands.[12]

- The Secretary shall enter into contracts with owners and operators of farms and ranches containing wetlands to place in the wetlands reserve, during the crop years 1991 through 1995:

  (1) not less than 5 million acres of existing wetlands; and

  (2) not less than 2.5 million acres of cropped former wetlands.

- For purposes of carrying out this program, the Secretary shall enter into contracts with farmers to transfer fee simple title, or obtain a permanent wetlands easement.

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[12] Pasture and rangeland were included in the report, however their inclusion in the reserve program could increase budget exposure due to the lack of offset through reduced farm subsidies. The Forum suggests that its recommendations be implemented in two phases, with wetlands on cropland first and on pasture and rangeland in a second phase.

- The Secretary shall provide payment for obligations incurred by the Secretary under a contract entered into under this program:

  (1) with respect to any cost-sharing payment obligation incurred by the Secretary as soon as possible after the obligation is incurred, the cost-share to be at least 50 percentum of the costs of improvements to enhance lands enrolled in this program; and

  (2) with respect to any annual fee title or easement payment.

Internal Revenue Code Amendments

To provide benefits to encourage the protection and wise management of the nation's wetlands, Section 48 of Title 26 of the U.S. Code shall be amended to:

-- Provide for the certification of tax-exempt Wetland Preservation Trusts by the Secretary of the Interior. Such trusts may acquire ownership of or partial interests in wetlands identified on U.S. Fish and Wildlife Service or equivalent state wetlands maps, on adjacent uplands, and on degraded former wetlands for purposes of restoration by donation, purchase, or land exchange.

  - Lands donated to certified Trusts shall be treated like gifts of ordinary income.
  - The carry-forward provision for such donations shall be extended to 10 years, and in the event of death, the donating individual's estate may use the unused carry forward as an estate charitable contribution.
  - Lands donated as part of a land exchange shall be entitled to all applicable tax-free benefits from such an exchange, and the taxpayer shall have up to 3 years to acquire the replacement parcel.

-- The increased land values of wetlands converted to other uses, including but not limited to agriculture uses, shall not be treated as capital gains under the Tax Code.

APPENDIX A

NATIONAL WETLANDS POLICY FORUM
Framework for Action

Implementation Plan

The recommendations of the National Wetlands Policy Forum are a major step forward in wetlands policy for the nation. Some recommendations strengthen protection of wetlands. Others are aimed at improving the processes for managing the nation's wetlands. Many of the recommendations are linked to and support other recommendations. Figure 1 provides a schematic representation of how the Forum's recommendations, grouped into four major areas -- stewardship, research and education, compensation, and regulation -- address the goal of no overall net loss of wetlands and an eventual increase in the quantity and quality of the nation's wetlands base.

Although each recommendation may not be ideal from each member's perspective, Forum members believe that the entire set of recommendations, taken as a whole, should significantly improve the efficiency and effectiveness of the nation's efforts to protect and manage its wetlands.

Ideally, the recommendations will be implemented as a whole as promptly as possible. However, given the variety of audiences addressed by the recommendations -- federal, state and local legislatures and executive agencies, and the private sector -- the potential exists for an uneven pace of implementation which could compromise the integrity and balance of these recommendations.

The Forum's recommendations were developed recognizing that successful and equitable implementation will depend upon measures that increase the regulatory protection afforded to wetlands occurring in tandem with measures to provide better information to landowners, incentives for private protection and compatible uses, and greater efficiency in the regulatory process, which will assist landowners in protecting and managing wetlands resources in private ownership. Thus, the Forum urges implementing agencies to consider the links between recommendations when seeking to implement any one recommendation and to pursue comprehensive rather than piecemeal implementation to ensure that the links are respected.

For example, several of the critical links between Forum recommendations occur within the two broad areas of improving regulatory programs and enhancing the quality and quantity of wetlands to offset future losses. The Forum recommended that, within regulatory programs, mitigation policies be implemented in such a way as to achieve no overall net loss. Such policies would include a clear preferred sequence of actions that begins with avoidance of adverse effects on wetlands and the reduction of unavoidable adverse effects and allows compensatory mitigation only as a last resort. In order for full compensatory mitigation to be effective, however, sites and methods for restoration or creation of wetlands and mechanisms for ensuring equitable assignments of costs and effective monitoring are needed. Thus, the Forum's recommendations for establishment of mitigation banks and regional general permits are linked to requirements for full compensation for private actions and expanded monitoring and enforcement.

The Forum recommended legislative action to implement its recommendations. Because of the comprehensive nature of the recommendations, legislation enacted should retain, to the degree possible, the links identified by the Forum. For example, the Forum recommends expanding the scope of regulatory programs to address several activities that cause wetlands losses, including the removal or excavation of soils; drainage or flooding; destruction of plant life; and driving of pilings and placement of other obstructions in wetlands (while retaining existing exemptions under 404(f)). The Forum did not intend that it's goal of "no overall net loss" of wetlands be achieved solely through increased regulation, however. Thus, legislation that expands the scope of regulatory jurisdiction over wetlands should also incorporate Forum recommendations helping private landowners participate in the stewardship of wetlands, such as facilitating advance planning, providing better information, providing incentives for the protection of wetlands in private ownership, and facilitating preparation of State Wetlands Conservation Plans and delegation of the regulatory program to the states. In addition, because such an expansion will place additional burdens on a regulatory system which is already spread thin processing 404 permit applications, legislation expanding the scope of jurisdiction should provide sufficient resources to regulatory agencies to allow them to carry out an expanded program efficiently.

The best vehicle for comprehensive implementation of the full range of Forum recommendations is preparation and approval of State Wetlands Conservation Plans (SWCP). Such plans will provide valuable information on the location and types of wetland resources and provide guidance regarding sites for compensatory mitigation. Plans prepared according to the Forum's recommendations will demonstrate that the state has comprehensive authority to regulate activities that cause wetlands losses and has the capability to carry out such regulation. The plan will also provide a coordinated approach to incentives for private protection and management. Thus, the Forum recommends that very high priority be given to encouraging states to undertake and complete SWCPs to meet the Forum's interim and long-term goal and to provide a basis for EPA to approve the plans and delegate regulatory responsibility.

In the period before SWCPs are prepared and approved, several other actions or policies would help to ensure comprehensive implementation of Forum recommendations:

- High priority should be given to detailed wetlands mapping and advance planning for wetlands management initiated by local, state, and federal agencies and resulting in better information about specific wetlands resources. Such plans could also be used to identify high priority areas for protection, areas suitable for regional general permits, areas suitable for compensatory mitigation, and opportunities for wetland restoration.
- Regulatory agencies should pursue actions to provide better consistency and efficiency in making jurisdictional determinations and in processing permits.
- Research on compatible uses, wetlands restoration and creation and institutional mechanisms for establishing mitigation banks should proceed as rapidly as possible.
- Agencies with stewardship responsibilities for public lands should increase their research on wetlands values and functions and on wetlands assessment techniques.
- Expedited permit mechanisms (such as existing nationwide permits) for small fills of ecologically low value wetlands should remain available pending establishment and approval by regulators of regional general permits,[13] mitigation banks, or other compensation mechanisms based on SWCPs or advance planning exercises.
- All government agencies should provide full compensation for any unavoidable wetland losses resulting from facilities they construct or support.
- Agencies responsible for implementing regulatory programs should be provided additional resources to expand their monitoring and enforcement activities.
- Government agencies should provide technical assistance about how to manage wetlands in private ownership and institute incentives for their protection, such as the Agricultural Wetlands Reserve and Wetlands Trusts.

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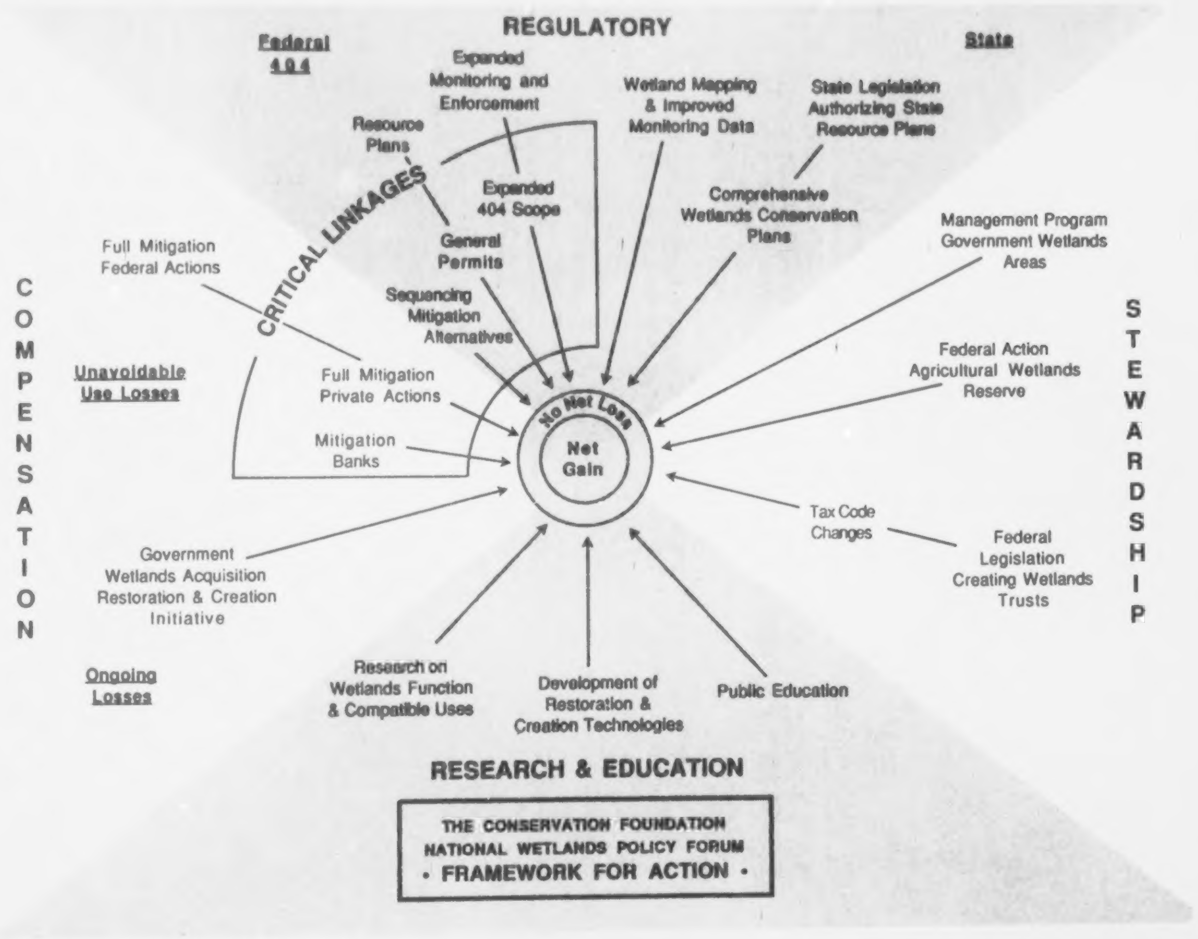
[13] As described in the Forum report, p. 41


REGULATORY
Federal 404
State
Expanded Monitoring and Enforcement
Wetland Mapping & Improved Monitoring Data
State Legislation Authorizing State Resource Plans
Resource Plans
Expanded 404 Scope
General Permits
Comprehensive Wetlands Conservation Plans
Sequencing Mitigation Alternatives
CRITICAL LINKAGES
Full Mitigation Federal Actions
Management Program Government Wetlands Areas
COMPENSATION
STEWARDSHIP
Unavoidable Use Losses
Full Mitigation Private Actions
Federal Action Agricultural Wetlands Reserve
No Net Loss
Net Gain
Mitigation Banks
Tax Code Changes
Federal Legislation Creating Wetlands Trusts
Government Wetlands Acquisition Restoration & Creation Initiative
Ongoing Losses
Research on Wetlands Function & Compatible Uses
Development of Restoration & Creation Technologies
Public Education
RESEARCH & EDUCATION
THE CONSERVATION FOUNDATION
NATIONAL WETLANDS POLICY FORUM
• FRAMEWORK FOR ACTION •

ABC
ASSOCIATED BUILDERS
AND CONTRACTORS, INC.

Statement of Associated Builders and Contractors

Presented by John H. Plummer, President

Mulberry Hill Development Corporation
and
John H. Plummer & Associates, Inc.

before the

House Committee on Small Business

U.S. House of Representatives

February 6, 1991

Speaking for the Merit Shop

729 15th Street, N.W.
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Good morning Mr. Chairman and members of the Committee. I am Jack Plummer, President of Mulberry Hills Development Corporation and John H. Plummer & Associates, a civil engineering and land surveying firm located in Salisbury, Maryland. On behalf of the Associated Builders and Contractors, I want to thank you for this opportunity to testify on the effects of current wetland regulations on small businesses.

Associated Builders and Contractors (ABC) represents over 18,000 contractors, subcontractors, material suppliers and related firms from across the country and from all specialties in the construction industry. Over ninety-five percent of our members are small businesses, corresponding to the national average in the construction industry.

Our diverse membership is bound by a commitment to the merit shop -- the most efficient construction technique in America. The merit shop philosophy of awarding construction contracts to the lowest responsible bidder, regardless of labor affiliation, through open and competitive bidding, assures taxpayers and consumers the most value for their construction dollar. With 75 percent of construction done today by merit shop contractors, ABC is proud to be their voice.

We commend Chairman LaFalce for his leadership and thank him and the members of the Committee for bringing this most important issue to the forefront.

ABC recognizes the environmental value of wetlands and is concerned by the recent estimates of significant wetland loss. We support efforts to protect legitimate wetlands but believe a more streamlined and efficient process is in order.

The regulation of wetland use has been established piece by piece -- one fix -- one place at a time -- as the ecological importance of wetland areas was realized and became increasingly valued. The preservation of wetlands is governed by four different federal agencies and 32 states have additional laws in place which address wetland issues.

Unfortunately, attempts to coordinate a wetlands management program have done little to help formulate one clear policy. I know you are well aware of the confusion which resulted after the adoption of the Federal Manual for Identifying and Delineating Federal Jurisdictional Wetlands. I would like to share with you the effects the manual has had on my development corporation.

Mulberry Hill Development Corporation is the owner of the Mulberry Mews subdivision of single family homes located in Easton, Maryland about seventy-five miles from here. The site consists of 62 acres located 450 feet from U.S. Route 50. The site is connected to Route 50 by a 100 foot wide right-of-way for access.

The corporation acquired this property in the summer of 1988 and for nearly 12 months went through the subdivision process and received the appropriate approvals for all aspects of the project including an approval from the Soil Conservation Service allowing us to fill every inch of the 62 acre site.

We entered into a contract for construction which began in early July of 1989. At that time, we had over 60 lots sold. On the 19th of July, 1989, the U.S. Army Corps of Engineers (Corps) ordered us to cease and desist all construction activities on our site because we were operating in non-tidal wetlands as defined by the then newly adopted Federal Manual for Identifying and Delineating Jurisdictional Wetlands.

The location of the wetland areas cited by the Corps included a portion of the 100 foot access strip to my project. Therefore, the cease and desist order not only precluded me from working in the area judged non-tidal, but it also prevented me from working in the upland areas of my site.

At the time of the cease and desist order, we had invested over $660,000, from a bank loan plus our own capital, to acquire the land and guide it through the subdivision process. Since July, 1989, we have continued to make interest payments of $6,500 on our bank loan every month as we attempt to bring our subdivision back to the point where it can again be marketed. As a result of the action taken by the Corps, we have been unable to close and lost the sale of 60 lots from our approved subdivision.

To comply with the Corps' new interpretation, our only alternative was to acquire an additional piece of land adjoining ours to provide access to another public street. Fortunately, the land was available. The property had to be subdivided out of a larger piece of land and cost an additional $300,000. Another corporation had to be formed to assemble the necessary funds to acquire that property. This process took over seven months.

We have also had to go back and again subdivide the upland areas of our original site as well as the adjacent lands. We are now at the point where we have received preliminary plat approval on both parcels and the construction documents have been redone and once again submitted to the appropriate agencies for review and approval. We anticipate that within the next two months we will have all the necessary approvals to bring us to the point we were back in July of 1989.

The Federal Manual for Identifying and Delineating Jurisdictional Wetlands was set forth as "technical guidance" without public notice or comment. In actuality the manual dramatically extended the jurisdiction of the Environmental Protection Agency and the U.S. Army Corps of Engineers over an already poorly functioning program. It is on this basis my corporation has filed suit against the federal government.

The practical impact of the change in wetland guidelines has increased my cost by over $430,000 plus new incorporation and subdivision costs, all of which must be passed through to the 60 lots in a declining real estate market. The Committee can appreciate the fact that retroactive wetland regulatory policy threatens the viability of my company and our ability to stay in business.

The Memorandum of Agreement on mitigation further extended wetland regulations by requiring extensive impact analysis for permit approval of wetland areas. The results have been long delays for permits and canceled projects. This piece by piece approach is not the answer.

It is obvious a comprehensive wetlands management initiative is necessary to clarify, consolidate and improve upon current law. The layers of regulatory authority over wetland protection must be streamlined.

ABC supports a fair and balanced approach to classifying wetlands which takes into consideration environmental benefits and economic security.

Recognizing all wetland areas are not equal, ABC recommends a priority ranking system be instituted to classify wetland areas and appropriate use. Distinct definitions for wetland areas must be articulated. In addition, establishing a clear permitting process with an outlined timetable is critical for necessary planning functions.

ABC supports mitigation efforts to protect and compensate for the loss and degradation of wetland functions and values. We believe any effort to improve wetland management should consider the use of a mitigation banking system to restore, enhance or create wetlands when appropriate.

ABC also believes compensation should be made available to landowners whose land is deemed unusable under wetland classification guidelines.

On behalf of the Associated Builders and Contractors, I again want to thank the Committee for the opportunity to be here today. I will be happy to answer any questions you may have.

STATEMENT OF
JAMES O. CROOK, VICE-PRESIDENT, ENGINEERING
W. W. BOXLEY COMPANY
ROANOKE, VIRGINIA

REPRESENTING THE
NATIONAL STONE ASSOCIATION

BEFORE
THE COMMITTEE ON SMALL BUSINESS
UNITED STATES HOUSE OF REPRESENTATIVES
FEBRUARY 6, 1991
WASHINGTON, D.C.

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE

I am pleased to have the opportunity to testify before your committee to discuss the concerns of the crushed stone and aggregates industry with the current method of regulating wetlands.

The National Stone Association (NSA) is the national trade association representing crushed stone and other aggregate producers. We have 480 members representing over 70 per cent of our industry's output. U.S. Bureau of Mines data show that in 1989, 1716 companies, with 3416 operations and 69,000 employees produced over 1.2 billion tons of crushed stone in the United States. Most NSA member's operations employ fewer than 25 people, and most of them qualify as small businesses and many are family-owned.

Crushed stone produced by our member companies is used in the construction of roads and highways, airports, buildings and homes. It is also used for erosion control to stop the loss of our topsoil and to protect our coastlines, to reduce the acidity of farmland and increase agricultural productivity and to treat and reduce the pollution of the nation's air and water.

The National Stone Association has adopted guiding principles to guide our members in the conduct of environmental affairs. A copy is attached.

Industry and small business has three specific needs if it is to be an effective partner in implementing a national wetlands policy. First, industry and small business needs clear, stable, unambiguous criteria so that business decisions can be made within a known, stable framework. Unclear, arbitrary or changing criteria introduces an element of risk into the business decision-making process that ultimately results in higher costs to the consumer and society, and ultimately fewer resources to address worthy national goals such as those relating to wetlands.

Second, industry and small business needs a responsive, consistent regulatory climate. Time is money, and time spent obtaining permits and meeting other legitimate regulatory needs represents a cost that uses up scarce resources that could be channeled to productive uses. Excessive permitting and regulatory time should be reduced as much as possible. Inconsistent regulatory requirements, either those that change from time-to-time or from inspector-to-inspector or from state-to-state, again introduce an element of uncertainty into the process that ultimately results in higher costs to society and fewer resources to accomplish worthwhile goals.

Third, industry and small business needs some reasonable period of time to adjust to new regulatory requirements such as those imposed by the Federal Wetlands Delineation Manual and the Memorandum of Agreement between the Corps of Engineers and the EPA. In the crushed stone industry, for example, operations may be carried out at a particular location over a period of twenty or more years. Changing the operation to meet new requirements will require a realistic phase-in period which needs to be built into the process.

The current situation under the Federal Manual for Identifying and Delineating Jurisdictional Wetlands and the Memorandum of Agreement on Mitigation violates all three of those criteria.

The crushed stone industry recognizes the importance of the nation's wetlands and the benefits they provide to all of us. We believe a national wetlands policy goal must be implemented in a manner that provides for regional variation and control to recognize regional differences in our large and diverse country. Any appropriate strategy must balance economic and environmental impacts, allow for reasonable and consistent identification of wetlands and recognize the need for meaningful regulatory reform that includes non-regulatory incentives for protecting wetlands.

We believe the opportunity exists within our industry to eventually create and replace wetlands as part of our long-range operations, once adequate research has been done to determine how to create them properly, and cost-effectively. At this time, there is still a great deal to learn about how wetlands function, and how to create them. As a side note, many of our member companies, working with conservation officials, have successfully developed productive wildlife habitats in buffer strips and undisturbed areas on their operations. They have done that as part of their environmental stewardship responsibilities and it has proven to be very effective. Many of these habitats provide a sanctuary for wildlife seeking refuge from urban pressure. We believe that once adequate research into wetlands and their creation has been done, and with clear goals and advance planning, many of our operations can be carried out so that productive wetlands are an end result.

We believe indexing wetlands according to their functions and values is important. Currently, all wetlands are treated equally regardless of wildlife or water quality value. A simplified version of HEP (Habitat Evaluation Procedure) could be used, for example, to determine wildlife values, and water quality values could be estimated by calculating sediment removal capabilities of the wetland in question. This information could be used to set up a ranking of wetlands to assist in permitting decisions (e.g. a roadside ditch or soybean field being low quality and a salt water marsh being high). Certain areas that currently meet the three parameter criteria of wetlands (soils, hydrology and vegetation) do not deserve "protection", such as some ditches, but under current Corps of Engineers rules are protected as if they were of high quality.

There is a need to balance protection of wetlands with offsetting effects. Part of the process should be an economic analysis (cost/benefit) of proposed projects. Currently persons not qualified to conduct such a review handle this part of a permit application. Usually, for example, biologists are called upon to make economic analyses.

The public needs to be part of the dialogue on wetlands, and should have input into the development of national wetlands policy. A national wetlands policy needs to be refined down to a check list approach which is fair and workable for all parties, which is clearly understood by everyone and which leaves out the subjectivity of the regulatory branch of government.

In short, the current regulatory scheme for wetlands creates problems for industry and small business. We recommend the the following approach to resolving the problems with the existing wetlands regulatory program:

1. Impose a moratorium on use of the Federal Manual for Identifying and Delineating Jurisdictional Wetlands and return to the previous regulatory system.

2. Introduce and pass legislation to setting forth a practical national wetlands program.

3. Develop realistic and workable regulations to implement the new law through the public rulemaking process.

In summary, industry needs clear criteria against which to make business decisions and a consistent, unambiguous and responsive regulatory climate. We believe pragmatic considerations need to be included in the development and passage of legislation setting forth a national wetlands policy and promulgation of publicly-developed rules implementing that law. We believe that industry and small business can be a constructive, creative and contributing partner in developing and implementing a sound, realistic national wetlands policy.

I appreciate the opportunity to provide you our comments, and hope you find them useful. Please let us know if we can be of additional assistance, or if you have questions or need more information.

National Stone Association

Environmental Guiding Principles

The members of the National Stone Association recognize that the Earth's resources, upon which all life depends, are finite and that wise environmental stewardship is necessary today to preserve the potential for a quality life for future generations. To that end, the National Stone Association has adopted the following Environmental Guiding Principles.

1. The National Stone Association believes that wise environmental stewardship is good business, and good for business.

2. The National Stone Association encourages its members to strive for excellence in environmental affairs and to provide leadership by example by demonstrating environmental stewardship in all aspects of their operations.

3. The National Stone Association encourages its members to meet all established environmental regulatory requirements, and where possible to do better than the law and regulations require.

4. The National Stone Association believes that environmental laws and regulations should be based on sound scientific, engineering and medical research and on established scientific, engineering and medical principles. To that end, NSA will work with lawmakers and regulators and make available the expertise of its members, staff and research facilities to help in shaping the nation's environmental policies.

5. The National Stone Association encourages its members to contribute to environmental enhancement by implementing programs such as landscaping and wildlife habitat development.

6. The National Stone Association encourages its members to work with community leaders and citizen groups in developing plans for appropriate uses of the land in the community interest, once mining operations have been completed.

7. The National Stone Association encourages its members to participate in communicating to the public the importance to society of an environmentally-responsible crushed-stone industry, and in educating the youth of our country in the wisdom of responsible environmental stewardship in a business setting.

STATEMENT OF THE AMERICAN ROAD & TRANSPORTATION BUILDERS ASSOCIATION TO THE HOUSE COMMITTEE ON SMALL BUSINESS ON THE EFFECT OF WETLANDS REGULATIONS ON SMALL BUSINESSES

FEBRUARY 20, 1991

The American Road & Transportation Builders Association is pleased to provide its views on the effect of the Federal wetlands regulations on small businesses in the United States. The American Road & Transportation Builders Association (ARTBA) is a national trade association representing both public and private sectors of the nation's transportation construction industry. ARTBA members include contractors, public transportation officials, equipment manufacturers, educators, planning and design consultants, construction materials suppliers, traffic safety equipment manufacturers and firms involved in public/private transportation ventures. Over 75 percent of ARTBA's membership is composed of small businesses.

Chairman LaFalce, ARTBA commends you and the members of the Committee on Small Business for holding these hearings on the effect of the Federal wetlands regulations on small businesses. As the Chairman has cogently stated,

> Our existing wetlands program not only suffers from misguided policies that unduly restrict individual property owners and small businessmen, it is overzealous in its application. Wetland protection does not have to be extended mechanically to marginal wet areas that may have no important functions and values, and certainly not to dry areas that simply fall within the artificial parameter of some Federal delineation manual.

Mr. Chairman, ARTBA believes that true wetlands are a valuable national resource and should be protected accordingly. Environmental experts have long held that these wetlands help temper floods, protect water quality, and provide refuge to waterfowl and other wildlife. However, Mr. Chairman, the Federal wetlands laws are proof positive that even the most laudable objective can be turned into an exercise in futility when pursued in an inflexible manner. In effect, a rational wetlands policy must balance the preservation of this important resource and the socioeconomic needs of the country. This balancing of competing interests must be taken into account when carrying out policies such as the Administration's "no net loss" of wetlands so that it does not inhibit the economic development of communities across the nation.

Mr. Chairman, the system that has been put in place to protect wetlands is cumbersome, confusing and duplicative. As it now stands, the Clean Water Act has been interpreted by Federal agencies to provide the requisite statutory authority to protect wetlands, primarily through the *Section 404* permitting process. The *Section 404* permitting process falls under the jurisdiction of both the Corps of Engineers and the Environmental Protection Agency, which often times has resulted in conflicting policies and permit requirements, as demonstrated by the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* issued jointly by the Corps of Engineers and EPA in 1989. For example, the manual states that hydrophytic vegetation, hydric soils and hydrology must be present for an area to constitute a wetland. However, several sections of the manual may be interpreted to require only one or more of the above-cited criteria for an area to be designated a wetland.

The present wetland protection system can be improved through the promulgation of regulations requiring a rational classification of wetlands. Wetlands should be classified or ranked according to their intrinsic environmental value as part of the permitting process. For example, marshland should be accorded greater protection than standing water in a roadside ditch. As it now stands, the *Section 404* permitting process would protect both forms of wetlands on an equal basis.

In closing, ARTBA recommends that Congress impose a moratorium on the use of the Federal Delineation Manual and pass legislation which establishes a rational and objective wetlands protection program. Congress should also require the promulgation of clear and practical regulations, and expressly prohibit the development of guidelines or manuals that, in effect, bypass the Federal rulemaking process.

Mr. Chairman, ARTBA stands ready to work with you on this important issue, and is thankful for this opportunity to provide this statement.

TESTIMONY OF
THE FOUNDATION FOR ENVIRONMENTAL AND ECONOMIC PROGRESS
BEFORE THE
SMALL BUSINESS COMMITTEE
U.S. HOUSE OF REPRESENTATIVES
SUBMITTED FOR THE RECORD
FEBRUARY 15, 1991

Mr. Chairman, Members of the Committee, the Foundation for Environmental and Economic Progress is pleased to submit its testimony for the record on the effect of the federal Section 404 program on our nation's small businesses. The Foundation for Environmental and Economic Progress is a coalition of large land and community developers who have had extensive experience with the 404 program over the entire United States. The Foundation is composed of over 20 member companies that build schools, homes, shopping centers, low-income housing, sports facilities and industrial parks.

While the Foundation represents large land holding companies, the business of its members depends upon local builders, local engineers, and local suppliers who are directly affected by the 404 program. Through its membership, the Foundation's experience with the 404 program has involved most Corps districts and EPA regional offices. Accordingly, it has an unusually broad and deep understanding of the area. The 404 program has been one of the most significant items in many Foundation members' agendas taking, in some cases, nearly 65% of their permitting efforts.

The experience of the Foundation in localities across the entire country--from California and Texas to Florida, North Carolina, and Georgia--confirms the need for major changes in the federal approach to regulating wetlands. In order to preserve our truly valuable wetlands, we need to find a way to allow environmentally conscientious development projects to proceed in a reasonable, and predictable, fashion. In fact, we view sound environmental planning as good business. High quality wetlands are amenities that can improve the value of the communities we develop.

The Foundation, therefore, recognizes the importance of quality wetlands and supports the President's goal of "no net loss of wetland values and functions." It has and will continue to be sensitive to the nation's wetlands in the projects its members develop, recognizing the balance between environmental sensitivity and economic progress. However, the 404 program as it presently exists is ill conceived to accomplish the President's goal. For this reason, the Foundation has been extremely active in the discussions leading to the February 1990 MOA between the Corps and EPA, and has testified before the House Water Resources Subcommittee and the DPC Task Force on wetlands.

I stress the concepts of "values" and "functions" because they should be the focus of any effort to preserve the nation's wetlands resources. Wetlands vary greatly in type, function and quality. Recognition of this reality is particularly important in light of the recent Federal wetlands delineation manual. The Foundation has submitted detailed comments on the Manual to the four federal agencies involved, noting both many technical problems and broad policy implications. We also noted that the Manual should be the subject of rule-making procedures, particularly in light of these policy implications. The most far-reaching policy implication is that the Manual has greatly expanded the areas that are classified as wetlands. Many of these areas are unrecognizable as wetlands and have little functional wetlands value.

In light of this expansive notion of wetlands, the requirement that the regulated community avoid all wetlands regardless of functional value is both unrealistic and counterproductive. Under the current system, an applicant has the same obligation to avoid an abandoned dump which is technically classified a wetland as it does to avoid a pristine area like the Florida Everglades. As a result, beneficial projects have been abandoned or delayed for months or even years in the permitting process. Such a policy leads to increased housing and infrastructure costs and to the destruction of valuable upland areas, all for the purpose of preserving land which is technically designated as wetlands but which is without any functional wetland values.

Does this policy make sense? We think not. Such a policy will not achieve no net loss and, in fact, is inconsistent with no net loss. The very phrase "no net loss" implies that there will be some losses as well as some gains. Indeed, the only practical way to achieve no net loss of wetlands values is to recognize that some impacts to wetlands of lesser value may be necessary to achieve other societal goals. In such cases, the creation of new wetlands or the restoration or enhancement of existing wetlands can result in no net loss or even a net gain of values while allowing needed development.

The Foundation suggests that an effective no net loss policy would protect high quality wetlands from all adverse impacts while seeking to harness the energies of the regulated community to improve wetlands values by holding open the possibility of development in low quality wetlands in return for creating higher quality wetlands. To do this, wetlands must be categorized according to value and the level of regulation must be adjusted to reflect those functional values.

Stringent regulation is required for the highest quality wetlands, with impacts allowed only in cases of absolute necessity such as national defense. Wetlands of lesser but still high quality are deserving of substantial protection, with filling allowed only where the applicant makes a strong showing that such filling is unavoidable and justified. Wetlands of moderate or low value should be available for development if the applicant demonstrates that he will replace the wetlands filled with enhanced or newly created wetlands of equal or greater value. Strict sequencing and avoidance should not apply to such low value wetlands. Appropriate mitigation ratios should be assigned to each value category. Mitigation banking should also be encouraged as a means of facilitating compensatory mitigation that will maximize the ecological benefits of wetlands.

Such a system would direct development away from high quality wetlands and provide incentives for improving the values of lower quality wetlands. Owners and land use planners would be able to plan more efficiently. They would know in advance which wetlands to avoid and what would be needed to obtain a permit. This would add predictability to the permit process and would therefore lower costs. It would also allow the regulated community to focus its energies on enhancing or creating wetlands instead of on contentious and nonproductive confrontations with regulators.

If the system is to enlist the regulated community in the effort to achieve no net loss, additional steps must be taken to bring predictability to the permit process. The most important step is to eliminate the uncertainty created by EPA's veto authority, which hangs over every permit application like the Sword of Damocles. The applicant currently enters an arena where multiple agencies with overlapping and, in some instances, conflicting agendas scrutinize a permit application. The process is often characterized by protracted inter-agency debates over what to do and how to do it. There is no mechanism in place to assure the timely, cost-effective processing of an application.

We believe the permitting system would be much improved if responsibility for the decision on a permit application was placed in one agency. This could be accomplished on a permit-by-permit basis by using procedures analogous to those used by EPA and the Corps for making jurisdictional determinations. Under such a system, EPA would decide at the beginning rather than at the end of the permit process whether it wanted to be the decision-maker on a particular project. If EPA elected to leave the processing of a particular application to the Corps, EPA would still be allowed to comment but would not be able to exercise a veto at the eleventh hour. The problem of split jurisdiction is a problem the Congress has created in the legislation governing the 404 permit process, and it is therefore a problem the Congress should correct.

Great uncertainty and greater cost is also fostered by the absence of any real deadlines for permit decisions. Under the present system one cannot submit an application with a sense of when the application will be acted upon. The regulations contain some time limits, but they are in practice unenforceable and so are infinitely expandable. We know of applications that are still pending after two years. Enforceable deadlines must be established for permit decisions to bring some predictability to the process.

In addition to an improved permit process, economic incentives will also encourage the regulated community to help achieve no net loss. One possibility which has been advanced in several bills now before Congress is to provide tax incentives such as tax credits or charitable deductions for the preservation, enhancement or creation of wetlands. Another possibility is to encourage exchanges of land whereby the private sector could deed wetlands to federal, state or local government in return for government land which could de developed. Another promising mechanism is the concept of transferable development rights. For instance, a landowner who agreed to place a conservation easement on wetlands would be given development credits which could be used by the landowner or sold to others for use on property deemed suitable for development. This would provide some compensation to landowners whose land is determined to be wetlands.

This transferable credit approach would work most effectively if used in conjunction with area-wide planning. Area-wide plans allow decision-makers to consider wetlands over a broad area and to decide up front which wetlands should be preserved and which might be appropriate for development. They have been used with some success in several areas of the country, including Anchorage, the Columbia River estuary and the Chesapeake Bay. Such comprehensive planning can more effectively achieve no net loss than permit-by-permit decision-making.

A related solution to no net loss is to delegate the regulation of wetlands to the states. Working in conjunction with local planning agencies, states can craft wetlands management programs which will promote the goal of no net loss while reducing economic impacts. Such programs can bring consistency to wetlands regulation and ensure that wetlands considerations are appropriately addressed early in the planning process. This will promote the kind of "one-stop" permit process recommended by the National Wetlands Policy Forum. Such state and local participation in wetlands regulation can also provide the framework within which approaches such as transferable development rights can work.

In summary, the Foundation believes that the best ways to achieve no net loss of wetlands and to improve the program are:

(1) Classify wetlands according to function and value protecting high quality wetlands from all adverse impacts and allowing development of low quality wetlands if the developer will compensate by enhancing or crediting new wetlands of equal or greater value.

(2) Assign the wetland permitting process to one federal agency and require the agency to make a decision within a reasonable time.

(3) Create economic incentives to wetlands creation and enhancement.

(4) Give states and local governments greater voice in the permit process since that is the level of government best suited to making land use decisions.

On behalf of the Foundation, we appreciate this opportunity to make our views known.

COMMENTS

OF

THE FOUNDATION FOR ENVIRONMENTAL
AND ECONOMIC PROGRESS, INC.

Submitted to:

THE WHITE HOUSE DOMESTIC POLICY
COUNCIL TASK FORCE ON WETLANDS

PROVIDENCE, R.I.

September 28, 1990

The Foundation for Environmental and Economic Progress, Inc. submits these comments in response to the notice published by the Domestic Policy Council's Task Force on Wetlands in the Federal Register on July 25, 1990. The Foundation is a coalition of community developers that believe that sensitive environmental planning is good business and should be part of responsible community development.

Foundation representatives attended four out of the six hearings held by the Task Force (Bismark, Olympia, New Orleans and Providence). The following responses to the questions posed by the Task Force in the Federal Register notice reflect the Foundation's views on those hearings as well as the experiences of its members with wetlands regulation in general and the Section 404 program in particular.

1. **What should be the appropriate federal, state and local government roles in working towards the national goal of "no net loss" of wetlands?**

One of the major problems with the existing 404 program is the lack of involvement by state and local governments. Ultimately, the Foundation believes that a "no net loss" policy cannot succeed unless the Federal Government encourages state and local governments to participate in the program. The Federal Government should set national goals and priorities and allow state and local governments to implement them. Some areas in which state and local governments should play a role are:

> Wetlands Inventory - The Federal Government should establish value categories for wetlands and allow states to classify their wetlands in accordance with those federal standards. The states are best able to take into account the regional variations in types of wetlands and in wetlands functions and values which must be recognized if no net loss of wetlands functions and values is to be achieved. Several states have already identified wetlands and established value categories which can be used as models. The states are also best equipped to document annual gains and losses within each category.
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> Permitting Authority - The states should assume permitting authority under Section 404. As noted by the National Wetlands Policy Forum, delegating authority to the states offers the greatest promise for improving the effectiveness and efficiency of wetlands regulation. States can most effectively consider regional variations in wetlands and can best implement the permitting authority in conjunction with area-wide planning. Moreover, delegating authority would eliminate existing conflicts between federal and state regulatory programs.

The Federal Government should establish standards for and approve state programs. Moreover, a federal regulatory agency should oversee state programs and should have the authority to take over the permitting program in a state if there are widespread deficiencies in a state's implementation of its program. However, the Federal Government should not exercise oversight on a permit-by-permit basis.

Mitigation/Mitigation Banking - Since the effectiveness of mitigation is a local phenomenon, local authorities should play a major role in establishing appropriate mitigation efforts for any project requiring mitigation as a condition of a permit. Similarly, since mitigation is most effective when implemented on a watershed basis, rather than through creation of small isolated wetlands, mitigation banks should be established at a state or local level.

Special Area Management Plans/Area-Wide Planning - As discussed more fully below, see pg. 53, infra, one way to minimize loss of wetlands is for local governments to engage in area-wide planning, with the participation of federal and state government where appropriate. This allows development in areas in which there will be the least environmental disruption and the most effective mitigation.

Zoning/Development Rights/Property Taxes - There are a number of initiatives local and state governments could undertake for the preservation and enhancement of wetlands, but there is little incentive for them to do so at the present time.

> *Development Rights* - Establishment of a system of transferable development rights along with appropriate zoning provisions could create incentives for preservation while easing the financial burden on individual landowners. See pg. 56, infra.
>
> *Property Taxes* - Realistic valuation of wetlands to reflect the limitation of their use would avoid creating disincentives for wetlands preservation.

2. **What regulatory and nonregulatory mechanisms now in place offer the best and most effective means of helping achieve the goal?**

There are a number of mechanisms currently in place that can play a prominent role in helping to achieve no net loss of wetlands functions and values. These include the following:

Compensatory Mitigation - Compensatory mitigation can ensure that there is no net loss of wetlands functions and values for individual projects. Such mitigation can take a number of forms, including restoration or enhancement of existing wetlands or creation of new wetlands. The technology is available to undertake such mitigation projects. Recognition of the preservation of wetlands and upland buffer zones as appropriate compensatory mitigation in some circumstances can also help to ensure no net loss of wetlands functions and values. As explained more fully below, see pg. 54, infra, the federal regulatory agencies should take further steps to realize the full potential of compensatory mitigation.

State Delegation - As noted above, states are in the best position to undertake many of the tasks necessary to achieve no net loss of wetlands functions and values. Section 404 currently contains provision for state assumption of permitting authority. However, only Michigan has done so to date. The Foundation believes there are a number of reasons for this, which include the following:

> *Cost* - States are concerned about a lack of resources to run their programs. This problem could be alleviated if states were given the authority to impose filing fees for permit applications.
>
> *EPA Oversight/Veto* - States are also concerned about excessive oversight of state programs by EPA, particularly EPA's use of its veto authority. As noted above, see pg. 51, supra, EPA should not micromanage state programs but should instead exercise the same type of general oversight as is used for the NPDES program.
>
> *Extent of Authority* - There are currently a number of limitations on the extent to which states can assume permitting authority. The Federal Government must provide greater flexibility in this regard so that states can assume authority in a manner which is most effective.

Special Area Management Plans - Special area management plans can be an effective means of achieving no net loss because they allow regulatory agencies to consider potential wetlands impacts over a broad area. This allows more efficient consideration of the types of trade-offs implicit in the notion of no net loss than is possible through permit-by-permit decision-making. Special area management plans also allow wetlands regulation to be coordinated with other environmental and nonenvironmental factors. In addition, such plans can help landowners and planners know which wetlands to avoid and can streamline the individual permit process. Such plans have been used with some success in several areas of the country, including Anchorage, the Columbia River estuary, and the Chesapeake Bay. The state of Georgia has recently proposed such a plan for state water projects. However, as discussed below, pp. 54 - 55, infra, these plans can only work if the federal regulatory agencies are willing to relinquish their permitting and veto authority for individual projects within a planning area.

Advanced Identification - The advanced identification process provides another type of planning mechanism which can benefit landowners and potential wetland users by identifying which wetlands should be avoided and which might be suitable for other uses. This allows more efficient planning and reduces costs to project proponents. However, this process has been little used.

Mitigation Banking - As discussed more fully below, pp. 58 - 59, mitigation banking provides a mechanism for maximizing the ecological benefits of compensatory mitigation efforts and providing incentives for landowners to preserve, enhance and create wetlands. In addition, such mitigation banks can result in compensatory mitigation being completed prior to the filling of wetlands associated with a particular project.

3. What new or revised regulatory and nonregulatory approaches, including market based incentives, should be considered?

There are a number of approaches that should be considered. One approach is increased emphasis on the mechanisms mentioned above.

Compensatory Mitigation - EPA and the Corps should promote the use of compensatory mitigation by abandoning the strict sequencing requirement except in the case of high quality wetlands. The regulatory agencies should instead encourage the use of compensatory mitigation for projects in lower quality wetlands as a way of improving wetland values. In addition, the federal regulatory agencies should be flexible in determining the appropriate forms of compensatory mitigation, allowing out-of-kind and off-site mitigation where circumstances warrant. For instance, in some situations restoration of ecosystems which are not limited to wetlands as compensation for filling of low quality wetlands may result in greater overall environmental benefit than simply replacing the wetlands values lost.

Delegation - The Federal Government should encourage delegation of permitting authority to the states by demonstrating a willingness to agree to appropriate divisions of authority with states and by providing funds and other resources where necessary.

Comprehensive Planning - The Federal Government should actively encourage state and local governments to engage in comprehensive planning. Such a process can be effective only if planners and developers know that master plans will be adhered to. The Federal Government should be willing, as indicated in the Corps-EPA mitigation MOA, to accept the results of area-wide plans where they comply with the 404(b)(1) Guidelines instead of undermining the purpose of such plans by insisting on the usual level of scrutiny for individual projects within a planning area. While there are provisions for SAMPs or similar plans in the Coastal Zone Management Act and other statutes, there is no formal regulatory process under the present 404 program for the permitting authority to approve a master plan which all parties know will be respected. The standards and procedures for federal approval of area-wide plans should be set forth in the statute or in regulations. At a minimum, the regulatory agencies should issue a policy statement providing guidance on this subject.

Identification of Wetlands - The Federal Government should encourage advanced identification of wetlands. Indeed, the government should go beyond the current advanced identification program and provide a comprehensive form of advanced identification by mapping all existing wetlands and assigning them to value categories.

Until such a data base can be established, the federal regulatory agencies should make it as easy as possible for landowners to determine whether jurisdictional wetlands appear on their property. One option is for the agencies to establish a process whereby private wetland delineators are trained and certified. Delineations performed by certified delineators would require only minimal oversight by the regulatory agencies. This would result in prompt jurisdictional determinations for owners and would conserve scarce agency resources. In addition, the regulatory agencies should establish an administrative appeal process for jurisdictional determinations so that jurisdictional issues can be resolved promptly.

Mitigation Banking - The Federal Government should encourage the use of mitigation banking by adopting appropriate regulations for the use of such banks and by establishing mitigation banks as demonstration projects.

The Federal Government should consider other approaches as well:

Wetland Value Categories - The most significant reform of the current system of wetlands regulation which the Federal Government could undertake would be to recognize that all wetlands are not created equal and should not be regulated on the same basis. The Task Force should recommend a system which assigns value to wetlands and places them in categories according to value. Such a system is discussed below at pg. 59. The level of regulation should then be tailored to the value assigned to the wetland. The highest value wetlands should be the subject of stringent regulation, with wetlands impacts allowed only in cases of absolute necessity such as national security. Wetlands of lesser but still high value should be subject to strong protections, with filling allowed only where the applicant is able to demonstrate that there are no practicable alternatives to the proposed discharge. Wetlands of lesser value should not be subject to strict sequencing or stringent avoidance requirements, with impacts being allowed if the applicant can demonstrate that the overall project, including compensatory mitigation, will result in no net loss of wetlands values. Low value wetlands should be covered by general permits, with filling allowed with minimal regulation. Compensatory mitigation should be made a condition of such general permits. Appropriate mitigation ratios should be established for each value category. To avoid any tendency to assign a disproportionate number of wetlands to a particular category, the Federal Government should establish certain percentages for each category of wetland (e.g. 20% pristine, 30% high, 30% moderate, 20% low).

Such a system would accomplish what a no net loss policy should do--direct development away from high quality wetlands and encourage the enhancement of lower quality wetlands by holding open the possibility of development in exchange for compensatory mitigation which replaces or increases the wetlands values lost as a result of the filling. It would also improve land use planning because landowners and planners would know in advance which wetlands to avoid and what would be needed to obtain a permit. This would add a much needed element of predictability to the permit process and would thus reduce transaction costs.

Tax Incentives - Federal, state and local governments can provide tax incentives for creation, restoration or preservation of wetlands by allowing tax deductions or tax credits for donations of land or for expenses incurred in creating or enhancing wetlands.

Land Exchanges - Wetlands owned by the private sector can be deeded to government entities in exchange for government land which can be developed. Several such exchanges have taken place to the benefit of both parties as well as the public. [e.g., exchange between Georgia DNR and Union Camp and South Carolina Audubon sanctuary). Such exchanges result in greater long-term protection for wetlands while shifting to the public the burden of protecting a public resource.

Transferable Development Rights - The concept of transferable development rights has been used in other contexts for some time. Under such a system, a landowner whose property was determined to be wetlands would be given transferable development credits, which the landowner could use or sell to others for use in designated "receiving zones," which would be areas considered suitable for development. This system will only work with the participation of local governments and would be most effective when combined with an area-wide management plan. It would also provide economic incentive for preserving wetlands and would ease the economic burden on the individual landowner whose property is determined to be wetlands.

4. **How effective are current federal, state and local laws in protecting wetlands?**

The current Section 404 regulatory program is somewhat effective in protecting wetlands. It has created an increasing number of regulatory hurdles to filling jurisdictional wetlands and has therefore discouraged the filling of such wetlands.

However, as discussed more fully in the statement submitted by a member of the Foundation, the Arvida Company, to the House Water Resources Subcommittee in connection with its oversight hearings on February 28, 1990, a copy of which is attached as Exhibit 1, the effectiveness of the Section 404 program is compromised by the fact that it is based on a statutory provision which was originally designed to regulate open-water dumping of dredged spoil, not to provide comprehensive protection to wetlands. As a result, a wide variety of impacts to wetlands, such as draining and clearing of vegetation, are not regulated under the Clean Water Act. Moreover, the statute contains a number of exemptions. Regulation of wetlands impacts under Section 404 is thus haphazard, and the program does not adequately protect high quality wetlands.

At the same time, the program has become overexpansive, regulating areas that have little or no functional value as wetlands. As discussed in greater detail in the comments submitted by the Foundation to the four agencies involved, this has been due in significant part to the adoption and implementation of the Federal Manual for Identifying and Delineating Jurisdictional Wetlands. The degree of public interest shown in the Manual and its impact is reflected in the number of people who attended both the Task Force hearings and the Manual hearings and the depth of concern expressed by speakers at those hearings. The fact that farmers would take time off in the middle of harvest season and travel many miles to speak to government officials dramatically underscores the need for the Manual to be subjected to the rulemaking requirements of the Administrative Procedure Act.

Moreover, because all wetlands are treated as equal, the 404 program does not focus on protecting high quality wetlands. Instead, the goal of the program is to steer development away from all wetlands regardless of functional value. Given the expansive definition of wetlands, this strict adherence to avoidance regardless of functional value results in substantial delays in or even abandonment of public and private projects, resulting in increased costs for housing, commercial and industrial development, and related infrastructure. The program also fails to harness the energies of the regulated community to create and restore wetlands. The energies of the regulated community are instead expended in unproductive confrontations with regulators.

Another fundamental shortcoming of the 404 program lies in the fact that, with few exceptions, wetlands impacts are considered only on a project-by-project basis. As a result, it is difficult if not impossible to determine if wetlands being filled pursuant to permits are those which are most suitable for filling or whether marginal wetlands are being protected in such a way as to put more development pressure on high quality wetlands. The lack of large scale planning thus creates ineffectiveness and inefficiency in the program. In short, the current Section 404 program has significant shortcomings in protecting wetlands and promoting no net loss of wetlands functions and values.

As for state and local laws, many state and local governments do not have freshwater wetlands regulations. Those that do exist sometimes conflict with the requirements of Section 404, further delaying projects and increasing costs.

5. **At what level should the "no net loss" goal be applied - On an individual property basis, locally within the state or region, or at the national level?**

The no net loss goal should be national in scope and should be defined in terms of wetlands functions and values, not acreage. However, the appropriate level for applying no net loss will depend on the function involved. For instance, water quality functions are appropriately viewed in terms of watersheds. On the other hand, no net loss of wildlife habitat value might be more appropriately defined in terms of other ecosystem boundaries. Such boundaries may in some instances cross state lines. In most cases, however, these units will be defined at the state or local level. Given that states should assume permitting authority as well as the role of documenting gains and losses, see pg. 51, supra, no net loss should therefore be applied at the state level. At the same time, there must be a recognition that in some states, such as Louisiana and Alaska, the no net loss goal may be impossible to achieve.

Many if not most individual projects will result in no net loss of wetlands values. However, as recognized in the mitigation MOA between the Corps and EPA, no net loss may not be appropriate for all individual projects and should not be a requirement of all permits. Nevertheless, compensatory mitigation in some form should be required for all projects even if no net loss is not achieved for each project.

6. **To what extent can wetlands effectively be created or restored? What tools or approaches should be used to ensure that creation or restoration projects are successful, especially over the long term?**

Degraded wetlands can be effectively restored to their prior condition. Technology exists to undertake such projects with a high degree of confidence. Wetlands can also be effectively created and enhanced, although sometimes such efforts are more difficult, depending in part on the type of wetland involved. There are numerous examples of successful mitigation projects across the country.

Monitoring requirements and other permit conditions such as use of performance bonds already provide some assurance of the success of compensatory mitigation efforts. Long term success could be further assured by the establishment of organizations to manage created or restored wetlands and by requiring permittees to contribute to funds established for the maintenance of such wetlands.

7. **What role should mitigation banking play in working toward the "no net loss" goal?**

Mitigation banking should be encouraged. The concept has been in existence for some time and has already been used with some success in several areas of the country.

Mitigation banking can help achieve no net loss by aggregating small mitigation efforts to create larger tracts of wetlands which are more environmentally beneficial than numerous small plots of wetlands. Mitigation banks can also be effective in mitigating the impacts to wetlands resulting from large scale projects involving transportation, powerlines, pipelines and large scale residential and commercial development. Mitigation banking can also be used to provide incentives for those in the regulated community to take advantage of opportunities for creating and restoring wetlands by allowing credits for such efforts against future projects involving wetlands impacts. Such banks should be used for both public and private projects.

8. Should wetlands be indexed according to their functions and values in applying "no net loss" goal? If so, what criteria should be used to determine the index?

Wetlands should be indexed according to function and value. The importance of the wetlands resource is in the functions that wetlands serve. However, not all wetlands are the same. Wetlands vary substantially in terms of type and function. In light of this, some wetlands must be considered more valuable than others. It follows that greater emphasis should be placed on preserving those wetlands that are of higher functional value. Indexing wetlands according to value will contribute to this goal, directing development away from high quality wetlands.

Any index system should consider the following criteria:

- wetland type;
- functional values of the wetland;
- location;
- relative abundance;
- condition of the wetlands;
- status of surrounding uplands;
- importance to the community of the functions performed by the wetlands; and
- general ecology of the area.

Some tools are already available to help provide such a value index. For instance, the Corps has developed the Wetlands Evaluation Technique ("WET"), which examines all wetlands functions. The Fish and Wildlife Service has developed the Habitat Evaluation Procedure ("HEP"), which determines the value of a wetland in terms of wildlife habitat. The Fish and Wildlife Service has also established resource categories, which are again based primarily on habitat value but may be relatively simple to apply. Finally, some states have wetlands quality classification systems based on scarcity and uniqueness.

9. What are the potential effects of specific wetland policies on farmers, public works projects, businesses and the environment?

Current wetlands policy and practice has increased costs to project proponents and society as a whole and disrupted both private and public planning efforts. The increased costs and inefficiencies arise largely from the delays inherent in the permitting process. A primary factor is the fact that both the Corps and EPA have regulatory authority over a particular project. In practice, this means that an applicant must satisfy both the Corps and EPA, even though the two agencies may have differing views on a proposed project. An applicant may spend months or even years trying to satisfy the Corps, only to have EPA enter at the eleventh hour and veto the permit.

Another factor is the lack of enforceable deadlines for action on a Section 404 permit application. An applicant may wait for months without a decision, particularly in those cases where the Corps and EPA disagree. An additional problem is the fact that the standards for issuance of a permit are often vague and inconsistently applied, so that the applicant is without clear direction.

Delays and added costs also result from the requirement that all wetlands be avoided regardless of functional value. This strict avoidance requirement is a result of the sequencing approach adopted in the recent mitigation MOA between the Corps and EPA. The effect in the field, whether or not intended by the policy-makers, is that many times regulators focus on avoidance to the exclusion of all else, requiring the applicant to demonstrate "avoidance" without reference to the precept of the Section 404(b)(1) Guidelines that avoidance is required only to the extent it is practicable. Some regulators insist on alternatives without regard to whether the alternatives make economic sense or are consistent with the applicant's project. Given this interpretation, avoidance is almost always possible. The avoidance hurdle thus becomes an insurmountable barrier.

In short, the 404 program has become a maze for applicants, who enter the process not knowing how to get to the end or how long it will take to get there. As a result, the regulatory system adds substantial costs to development as a result of delays, need for consultants and lawyers, and the lost return on unused land. Many needed projects are abandoned entirely, again resulting in higher costs. This may also result in lost tax revenues to local communities where development is significantly restricted by wetlands.

In addition, the current program often results in federal officials second-guessing the judgments of other federal agencies as well as state and local officials regarding the need for public projects such as highways, schools, etc. This can result in delays and increased costs for needed public facilities. Moreover, the requirements imposed by federal regulators often conflict with and disrupt local land use planning efforts, which can also result in delays and higher costs. In short, the current 404 program has a substantial economic effect, particularly in areas with high concentration of wetlands.

Many of the defects in the current program flow from the permit-by-permit decision-making which characterizes the program. The problems with the individual permitting process--and the costs associated with it--could be substantially alleviated if greater emphasis was placed on area-wide planning, resulting in less reliance on individual permitting.

The current Section 404 regulatory policies may also result in the sacrifice of other important environmental values. The emphasis on avoidance of wetlands means that development is directed into upland areas regardless of the ecological benefit of the upland. As a result, wetlands which have little functional value may be preserved at the expense of ecologically valuable upland areas, thereby resulting in a new environmental loss.

10. How do we balance the need to protect wetlands against the potential effects on farmers, businesses and public works projects?

The keys to achieving a proper balance between wetlands protection and the needs of the regulated community are 1) to protect wetlands that have real functional value, 2) to spread the costs of protecting these wetlands over society as a whole, and 3) to make it easier for landowners to use their property so long as this use has little or no net impact on wetland values.

The range of regulated activities should be expanded for high quality wetlands in order to provide greater protection for wetlands that provide the greatest benefit. Incentives should be provided for protecting such wetlands. Moreover, the burden of protecting high quality wetlands should not be placed solely on the individual landowner. The cost of protecting an important public resource should be borne by the public. The Federal Government should acquire pristine wetlands and so shift the burden for protecting these wetlands from the individual to society at large. The burden of protecting high quality wetlands can also be shifted to the public through mechanisms outlined above such as tax incentives and transferable development rights.

At the same time, wetlands values can be adequately protected while relieving the burden on the regulated community and reducing the costs to society as a whole by reducing the scope of the wetlands definition to exclude those areas which have little or no functional value. Areas of minimal value that remain subject to regulation should be covered by general permits.

For wetlands of moderate value, the burden on the regulated community could be eased with little resulting effect on wetlands values if the permit process were improved. A single agency should be given the responsibility for making a decision on a permit application. Ideally, this would be a state agency which had been delegated the authority to make the decision. The Federal Government would retain the authority to withdraw approval of a state program and resume the permitting function. To the extent the Federal Government retains permitting authority, the establishment of a single decision-maker could be accomplished on the federal level on a permit-by-permit basis by requiring EPA to decide up front rather than at the last minute whether it wanted to be the decision-making authority on a particular permit application. Enforceable deadlines should also be established for permit activities in order to minimize delays. Regulatory agencies should have the authority to impose permit fees in order to provide sufficient resources to meet the deadlines. In addition, permit standards should be promulgated with greater clarity through the rulemaking process. In particular, the strict sequencing requirement of the MOA should be abandoned in favor of a return to the intent of the 404(b)(1) Guidelines that mitigation be an iterative process.

A better balance between wetlands protection and economic progress could also be achieved by giving greater consideration to the public purpose served by proposed projects, especially those proposed by public agencies. For example, a need for public housing or hospitals may justify some impacts to wetlands in order to accommodate other societal goals. Some measure of compensatory mitigation would likely be appropriate for such projects in order to minimize wetlands impacts.

An excellent procedural mechanism for achieving this needed balance is area-wide planning. Area-wide plans can identify high quality wetlands which should be avoided and can make it easier for projects to proceed in those areas where wetlands impacts are deemed acceptable, thus reducing transaction costs.

In addition to these regulatory reforms, farmers, business men and women, and others in the regulated community can be encouraged to help achieve no net loss by providing incentives for creation and restoration of wetlands which will increase wetlands values.

11. What research or data collection is necessary in working toward the "no net loss" goal?

The no net loss goal can be achieved with current technology through the policies and mechanisms outlined above. However, further research and data collection will aid in achieving no net loss. One of the most pressing needs is for a workable wetlands definition and delineation methodology which will identify as wetlands those area that have functional value as wetlands. In this connection, the definitions and lists of hydrophytic vegetation and hydric soils need to be critically reexamined.

In addition, wetlands should be mapped and indexed according to value. The Fish and Wildlife Service has provided a useful data base in the form of the National Wetlands Inventory. However, this inventory was not undertaken for purposes of the Section 404 program and does not properly delineate wetlands for regulatory purposes. Moreover, it does not attempt to classify wetlands on the basis of value. Wetlands need to be mapped and indexed so that landowners and planners will know where the wetlands are and will be able to direct development away from high quality wetlands.

In connection with indexing, additional research on wetlands functions and values can be useful. Additional research on mitigation techniques will increase the range of mitigation options and further assure the success of mitigation projects.

12. How should the Federal Government manage it wetlands? How should the existence of wetlands be addressed prior to disposal of federal properties?

The Federal Government should be a leader in no net loss of wetlands functions and values. The Federal Government should seek to preserve wetlands on federal property unless wetlands impacts are unavoidable. The government should mitigate for any unavoidable impacts so as not to undercut its own no net loss goal. Moreover, the Federal Government should manage its properties so as to maintain wetlands functions and values.

One simple way for the Federal Government to demonstrate its commitment to wetlands would be to ensure that wetlands on surplus federal property are preserved, e.g., by imposing restrictive easements on any wetlands sold or by deeding them to state or local governments for preservation.

13. What can be done to encourage public awareness of the value of wetlands?

The Federal Government could institute a media campaign, possibly financed by penalties and or permit fees paid by applicants, in an attempt to better educate the public as to the importance of wetlands. However, the Foundation is skeptical about the effectiveness of such a program for people who perceive themselves as being little effected by wetlands. A more effective approach would concentrate on educating landowners who are directly affected by federal wetlands regulation. The most significant step the Federal Government could take in this regard would be to make the existing 404 program more credible in the eyes of the regulated community. This could be done by, inter alia, revising the Delineation Manual so that the program covers only functioning wetlands and by providing for greater public input into regulatory initiatives by using the rulemaking process.

1244

No. 90-792

IN THE
Supreme Court of the United States
OCTOBER TERM, 1990

LESLIE SALT CO. AND CARGILL, INC.,
Petitioners,
v.
UNITED STATES, *et al.*,
Respondents.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Ninth Circuit

BRIEF OF THE FOUNDATION FOR ENVIRONMENTAL AND ECONOMIC PROGRESS AS *AMICUS CURIAE* IN SUPPORT OF PETITIONERS

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BRIEF OF THE FOUNDATION FOR ENVIRONMENTAL AND ECONOMIC PROGRESS AS *AMICUS CURIAE* IN SUPPORT OF PETITIONERS

The Foundation for Environmental and Economic Progress (the "Foundation") respectfully files this brief as *amicus curiae* in support of Petitioners. The Foundation has obtained written consent from counsel for Petitioners and Respondents to file this brief. The consent letters have been filed with the clerk's office.

INTEREST OF *AMICUS CURIAE*

The Foundation is a non-profit corporation whose members include over 15 real estate and community developers. The Foundation's members are involved in the development of large-scale commercial and residential projects throughout the country, and, as a result, have substantial experience with the regulation of wetlands and other waters of the United States under Section 404 of the Clean Water Act. Accordingly, the Foundation believes it can assist the Court in obtaining an additional perspective on the issue presented in the underlying case. Moreover, because the question raised in this case restricts the development potential of vast areas of land, this Court's resolution of the issue presented would be of great significance to the Foundation's members and a substantial number of similarly situated developers and landowners.

SUMMARY OF ARGUMENT

The issue in this case is the scope of the U.S. Army Corps of Engineers' regulatory jurisdiction under Section 404 of the Clean Water Act. The U.S. Court of Appeals for the Ninth Circuit held in the decision below that federal jurisdiction extends to isolated areas which pond after rainfall because such areas "may" be used by migratory birds and therefore could affect interstate commerce. The Supreme Court should grant the petition for a writ of certiorari because of the pressing need for Supreme Court guidance regarding the proper scope of federal regulatory authority under Section 404.

The "migratory bird" policy is of critical importance to any person who wants to use and develop property. The Ninth Circuit's approval of this policy gives the federal government authority to regulate virtually any property determined to be a "water" simply because the property "could" be used by migratory birds, even absent actual use. The Corps of Engineer's migratory bird policy, coupled with its recent policy claiming jurisdiction over previously unregulated "waters," constitutes a broad expansion of federal regulation under the Clean Water Act. Such a major expansion of regulatory authority should not be approved by this Court absent evidence that Congress had granted this authority, which is not present here. Furthermore, the Corps' interpretation of the Clean Water Act is not entitled to deference since the policy did not emerge from its experience indicating that the assertion of such authority was necessary to effectuate the goals of the Act.

Finally, the Fourth Circuit has held that the Corps' migratory bird policy is invalid, while the Ninth Circuit has upheld this policy. This Court should resolve this split between the circuits.

ARGUMENT

The present case involves the issue left unresolved in *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121 (1985): whether the U.S. Army Corps of Engineers (the "Corps") has authority under the Clean Water Act (the "Act") to regulate isolated waters that are not adjacent to and have no hydrological or other connection to navigable waters.[1] In the case below, a divided panel of the Ninth Circuit held that the Corps' regulatory jurisdiction under the Act extends to isolated waters that are unconnected to other "waters of the United States," simply because such areas "may" be used by migratory birds. *See Leslie Salt Co. v. United States*, 896 F.2d 354, 355, 360 (9th Cir. 1990). Accordingly, this case tests the limits of federal authority under Section 404 of the Act, 33 U.S.C. § 1344.

Under Section 404, a person must obtain a permit from the Corps in order to discharge dredged or fill material into "navigable waters." The term "navigable waters" is defined as "the waters of the United States, including the territorial seas." *Id.* at § 1362(7). The Act does not define the phrase "waters of the United States"; instead, this phrase has been defined by the Corps and the U.S. Environmental Protection Agency ("EPA")[2] in identical regulations. The Corps' and EPA's regulatory definitions of "water of the United States" include, in relevant part, the following:

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[1] In *Riverside Bayview*, the Court held that the Corps' jurisdictional authority extended to the regulation of intrastate wetlands that are "adjacent" to other "waters of the United States." *Id.* at 131-39. The Court, however, expressly declined to rule on the validity of federal jurisdiction over the type of waters at issue here: intrastate, isolated waters (*i.e.*, waters that are neither navigable nor adjacent to navigable waters). *See id.* at 131 n.8 ("We are not called upon to address the question of the authority of the Corps to regulate discharges of fill material into wetlands that are not adjacent to bodies of open water . . . and we do not express any opinion on that question").

> (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
>
> (2) All interstate waters including interstate wetlands;
>
> (3) All *other waters* such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, *the use, degradation or destruction of which could affect interstate or foreign commerce* including any such waters:
>
> > (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
> >
> > (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
> >
> > (iii) Which are used or could be used for industrial purpose by industries in interstate commerce[.]

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[2] The Corps has primary administrative responsibility for implementing Section 404 of the Act, including the initial review of permit applications in accordance with both its own regulations, *see* 33 C.F.R. Pts. 320-330 (1990), and EPA's regulations governing Section 404 permits. *See* 40 C.F.R. Pt. 230 (1990). EPA has authority to "veto" the Corps' permit decisions. *See* 33 U.S.C. § 1344(c).

33 C.F.R. § 328.3(a) (1990) (emphasis added). *See also* 40 C.F.R. § 230.3(s) (1990).

It is noteworthy that these regulations do not include use or potential use by migratory birds as a basis for asserting jurisdiction over isolated waters.[3] Notwithstanding this regulatory omission, the Ninth Circuit held that the Corps has jurisdiction over isolated waters simply because migratory birds "may" use these waters. *See Leslie Salt Co.*, 896 F.2d at 360.

I. THIS CASE WARRANTS SUPREME COURT REVIEW BECAUSE THE NINTH CIRCUIT'S DECISION IMPROPERLY EXPANDS THE CORPS' REGULATORY AUTHORITY TO VIRTUALLY ANY PROPERTY

Under the Ninth Circuit's reading of the geographic scope of the Corps' authority under Section 404, the Corps may regulate virtually any property.

In determining whether to assert jurisdiction over a parcel of land, the Corps employs a two-part test. First, it determines whether the area is a "water," and then whether it is jurisdictional because of its effect on interstate commerce. One category of "waters" is open bodies of water such as rivers, streams, and lakes. The Corps, however, has expanded this concept to include areas that rarely contain water at the surface. In *Leslie Salt*, for example, the "waters" at issue are small, man-made pits that pond at times during the winter rainy season. As the district court recognized, "[a]ny land subjected to enough temporary rainfall will collect water which stands until it runs off or percolates into the ground." *Leslie Salt Co. v. United States*, 700 F. Supp. 476, 483 (N.D. Cal. 1989), *rev'd*, 896 F.2d 354 (9th Cir. 1990).

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[3] As discussed below, *see infra* at 12-14, the Corps did not develop the migratory bird policy until 1985 as a result of oversight hearings before a Senate subcommittee. After those hearings, the Corps issued an unpublished internal memorandum to its district offices directing them to assert jurisdiction over isolated waters on the basis of use or potential use by migratory birds. *See* Patrick J. Kelly, Brigadier General, Deputy Director of Civil Works, "EPA Memorandum on Clean Water Act Jurisdiction Over Isolated Waters" (November 8, 1985) (copy lodged with Clerk's Office).

The other principal category of "waters" is "wetlands." *See* 33 C.F.R. §§ 328.3(a)(3); 328.3(b) (1990). Under the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands," the criteria for identifying "wetlands" are so broad that the term includes areas with no discernible water for most of the year.[4] An area will be considered to be at wetland even if water is never present at the surface; it is sufficient if the underground water table rises to within 18 inches of the surface for as little as seven days during the growing season.[5]

When this expansive definition of "waters" is combined with the Corps' migratory bird policy, vast areas of previously unregulated land are brought within Corps jurisdiction. Birds travel throughout the Western Hemisphere and may potentially use any land in the United States. In one study, for example, birds marked in North Dakota were recovered in 46 states, ten Canadian provinces and territories, and 23 other countries.[6] In addition, actual "use" by birds is not even required; potential use is sufficient. There is no minimum size requirement, nor does it matter whether birds use the site for nesting, feeding, or breeding, or simply as a place to fly over and land. Similarly, federal jurisdiction is exercised regardless of whether the use is regular and ongoing, or more limited, such as seasonal, temporary, or even a single incident of bird "use." Likewise, any bird will qualify—non-water dependent species such as robins, sparrows, and bluejays, are treated identically to waterfowl such as Canada geese and mallards. All that matters is that the bird happens to cross a state line.

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[4] The expansion of the Corps' jurisdiction since issuance of the Manual has been dramatic, particularly in coastal areas. For instance, the governor's office in Maryland has stated that the Manual has resulted in the regulation of "hundreds of thousands of areas not previously subject to federal jurisdiction." *See* Comments of David A.C. Carroll, Governor's Chesapeake Bay Coordinator (July 27, 1990), submitted to the Corps in response to notice in 55 Fed. Reg. 24138 (June 14, 1990) (copy lodged with Clerk's Office). The jurisdictional wetlands in one Maryland county have been estimated to have increased more than five-fold as a result of the Manual; indeed, some Maryland counties may now contain up to 65 percent wetlands under the Manual. *See* "Wetlands Preservation Law Draws Complaints in Md.," The Washington Post, February 20, 1990, p. A1. Similarly, under the Manual as much as 75 percent of Chatham County, Georgia qualifies as jurisdictional wetlands, representing an increase of over 50 percent. *See* Comments of Commissioners of Chatham County (July 25, 1990), submitted to the Corps in response to notice in 55 Fed. Reg. 24138 (June 14, 1990) (copy lodged with Clerk's Office).

[5] *See* F. Dunkle, Fish and Wildlife Service, R. Hammer, Environmental Protection Agency, R. Page, Department of Army, W. Scaling, Soil Conservation Service, Federal Manual for Identifying and Delineating Jurisdictional Wetlands §§ 2.8, 2.9 (January 1989).

The effect of the Ninth Circuit's decision is to enable the Corps to regulate minuscule depressional areas in the midst of, for example, upland corn fields, simply because the depressional areas collect water after rainfall or experience a "high" water table for a short time during the spring if the area could be used by birds.

The Foundation is aware of several instances in which the federal government has asserted jurisdiction over areas that are a mere fraction of an acre. For example, in *In the Matter of the Hoffman Group, Inc.*,[7] the government sought a $125,000 administrative penalty for an alleged filling of "waters of the United States," which included a 0.8-acre clay-lined depressional area located in a 40-acre cornfield in Cook County, Illinois. The landowner appealed the administrative penalty, and, after a hearing, EPA's Chief Administrative Law Judge ("ALJ") determined that this tiny piece of land had no surface or groundwater connection with any other water body; it became wet after rain and dried through evaporation.[8] The ALJ also found that there was no evidence that migratory birds actually used the area, or that the area "contains any characteristic that would render it any more attractive to birds than any other land that at one time or another contains water." *Id.* at 48. Indeed, the ALJ noted that the government's expert had testified that birds would use any site: "I have seen ducks sitting in puddles in a parking lot." *Id.* at 48. Holding that the government had to establish more than the "theoretical possibility" that the area could be used by migratory birds, *id.* at 49, the ALJ rejected the government's assertion of jurisdiction over this area and reduced the penalty to $50,000.

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[6] *See* U.S. Fish and Wildlife Service, Wetlands of the United States: Current Status and Recent Trends 1 (1984).

[7] *See In the Matter of the Hoffman Group, Inc.*, CWA Appeal No. 89-2 (November 26, 1990), *notice of appeal filed*, (7th Cir. December 19, 1990) (copy lodged with Clerk's Office).

The EPA regional office appealed this ruling to EPA's Chief Judicial Officer, claiming that "potential" use is sufficient for federal jurisdiction. EPA's Chief Judicial Officer agreed and reinstated $50,000 in penalties with respect to the 0.8-acre area that will filled. Although the Chief Judicial Officer accepted the ALJ's findings that this area had no relationship to other waters and that it was not actually used by migratory birds, the Chief Judicial Officer concluded that this area was a "water of the United States" because it "could" be used by migratory birds.[9]

As the Chief ALJ observed in *Hoffman*, if the isolated 0.8-acre depressional area is a jurisdictional "water of the United States," the decision "is tantamount to making all wetlands subject to Section 404 jurisdiction." [10] Without any minimum requirements as to size, type or frequency of use, or type of bird, the consequence of the Ninth Circuit's decision in *Leslie Salt* is to sweep countless isolated areas into federal jurisdiction regardless of their value in promoting water quality, their real effect on interstate commerce, or even their significance to migratory birds.[11]

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[8] *In the Matter of the Hoffman Group, Inc.*, Docket No. CWA-88-AO-24 at 45, 45 n.133 (September 15, 1989), *rev'd on other grounds*, CWA Appeal No. 89-2 (November 26, 1990) (copy lodged with Clerk's Office).

[9] *In the Matter of the Hoffman Group*, CWA Appeal No. 89-2 at 25 (November 26, 1990).

II. THE NINTH CIRCUIT'S DECISION IS UNSUPPORTED BY THE LEGISLATIVE HISTORY OF THE ACT

A. The Migratory Bird Policy is Unrelated to the Act's Purpose of Protecting Water Quality

No one disputes that Congress intended to give the term "navigable waters" in the Act a broad interpretation. *See Riverside Bayview*, 474 U.S. at 132-39; S. Rep. No. 1236, 92d Cong., 2d Sess. 144 (1972), *reprinted in* 1 Legislative History of the Water Pollution Control Act Amendments of 1972 at 327 (1973). This Court has stated:

> In adopting this definition of "navigable waters," Congress evidently intended to repudiate limits that

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[10] *Hoffman*, Docket No. CWA-88-AO-24 at 49.

[11] The Act provides no mechanism for direct judicial review of jurisdictional determinations. Such determinations are subject to review only after a landowner has endured the lengthy and expensive permit application process and a permit has been denied, or the landowner defies the Corps and risks an enforcement action and large administrative penalties (up to $25,000 per day). Because of the expense and risk of seeking review under either method and the low value of most small isolated waters, few property owners have the resources to challenge the assertion of jurisdiction over these areas, even though this issue is of great importance to property owners. Accordingly, this case is an appropriate vehicle for this Court to review this important jurisdictional question. We believe that this is a significant practical reason why the petition should be granted.

> had been placed on federal regulation by earlier water pollution control statutes and to exercise its powers under the Commerce Clause to regulate at least some waters that would not be deemed "navigable" under the classical understanding of that term.

Riverside Bayview, 474 U.S. at 133.

Congress' concern was that the legislative objective of the Act—"to restore and maintain the chemical, physical, and biological integrity of the Nation's waters" [12]—could not be accomplished if the term "navigable waters" was restricted to its traditional meaning. The term "navigable waters" had historically been applied under the Commerce Clause to waters that serve as avenues of commerce. *See e.g.*, *Utah v. United States*, 403 U.S. 9, 11 (1971).[13] While the traditional approach makes sense when the issue involves the shipment of goods, Congress recognized that it would be inadequate in protecting the Nation's water quality. With this goal in mind, Congress determined that the hydrological connection of waters was of primary importance. As the Senate Committee on Public Works stated:

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[12] 33 U.S.C. § 1251(a).

[13] The legislative history cites a number of Supreme Court cases expanding the definition of navigable waters. *See* 118 Cong. Rec. 33756-57 (1972) (statement of Rep. Dingell), *reprinted in* 1 Legislative History of the Water Pollution Control Act Amendments of 1972 at 250 (1973). These cases are *The Daniel Ball v. United States*, 77 U.S. (10 Wall.) 557, 563 (1871) (holding that a river was a navigable water because it was "navigable in fact" in its natural state and had the capacity to be used for interstate commerce); *Economy Light & Power Co. v. United States*, 256 U.S. 113, 121-24 (1921) (a river having navigable capacity in its natural state but, as a result of various alterations and man-made obstructions was presently incapable of use for navigation is navigable); *United States v. Appalachian Elec. Power Co.*, 311 U.S. 377, 407-08 (1940) (waters which are suitable for navigation by means of reasonable improvements are navigable). *See also Oklahoma v. Guy F. Atkinson Co.*, 313 U.S. 508, 523-26 (1941) (Congress' authority extends to non-navigable tributaries of navigable waters). Simply because Congress sought to move beyond the definition of waters established in these cases, it does not follow that Congress intended to abandon the concept of navigability and regulate waters wholly unconnected to navigable waterways.

> Through narrow interpretation of the definition of interstate waters the implementation [of the] 1965 Act was severely limited. Water moves in hydrologic cycles and it is essential that discharge of pollutants be controlled at the source. Therefore, reference to the control requirements must be made to the navigable waters, portions thereof and their tributaries.

Comm. on Public Works, Federal Water Pollution Control Act Amendments of 1971, S. Rep. No. 414, 92d Cong., 1st Sess. 77 (1971), *reprinted in* 2 Legislative History of the Water Pollution Control Act Amendments of 1972 at 1495 (1973). To the extent it is discernible, the congressional goal was to regulate water linked in the hydrological chain to navigable waters. Insofar as a "water" or "wetland" is isolated from the interconnected system, it will not affect the water quality of the system, and therefore its regulation is unrelated to the Acts purpose.

B. The Corps' Interpretation of the Act is Not Entitled to the Deference Typically Accorded to an Agency's Interpretation of a Statute

We recognize the general principle that courts should grant deference to an agency's construction of the statute it is entrusted to administer. *See Chevron U.S.A., Inc. v. Natural Resources Defense Council*, 467 U.S. 837, 844 (1984). Courts typically give weight to an agency's statutory interpretation where, for example, the policy is formulated and justified in a "detailed and reasoned fashion," *id.* at 865, is announced contemporaneously with the enactment of the statute, *see Lowe v. Securities and Exchange Comm'n*, 472 U.S. 181, 216 (1985) (White, J., concurring), or has been interpreted in a consistent and longstanding manner. *See Bowen v. American Hospital Ass'n*, 476 U.S. 610, 646 n.34 (1986).

The migratory bird policy was not adopted until 1985, thirteen years after the enactment of the Federal Water Pollution Control Act Amendments of 1972, when the original debate over the reach of "waters of the United States" took place, and eight years after the Act's revision in 1977, when the jurisdictional issue was revisited by Congress.[14] The issue was first raised by one Senator during oversight hearings before the Subcommittee on Environmental Pollution of the Senate Committee on Environment and Public Works. Seeking to extend federal regulation under the Act, Senator Mitchell asked the Acting Assistant Secretary of the Army, Civil Works, whether Corps jurisdiction under Section 404 reached isolated wetlands "used by migratory fowl, waterfowl, which establishes the interstate commerce basis for jurisdiction."[15] The witness declined to respond, stating that he needed legal advice prior to answering this question.[16] One month later, EPA's Acting Assistant Administrator for External Affairs appeared before the same panel. Apparently prepared for the Senator's question, the Assistant Administrator listed several examples of effects on interstate commerce that would subject waters to regulation under the Act, including waters used as habitat by birds protected by Migratory Bird Treaties and waters used as habitat by other migratory birds which cross state lines.[17] Senator Mitchell questioned the witness' failure to include waters that "could be" used by migratory birds. *Id.* at 169-70. The Assistant Administrator then indicated a need to confer with counsel prior to answering this question.

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[14] The Corps initially applied a narrow definition of the term "navigable waters" after the enactment of the Federal Water Pollution Control Act of 1972, but a federal court ordered the Corps to promulgate new regulations. *See Natural Resources Defense Council, Inc. v. Callaway*, 392 F. Supp. 685 (D.D.C. 1975). As a result, the Corps promulgated interim final regulations that expanded the definition of navigable waters to include traditional navigable waters and their non-navigable tributaries, coastal wetlands, interstate waters, inland wetlands adjacent to navigable waters, and intrastate waters utilized in interstate commerce for recreational, fishing, industrial, or agricultural purposes. *See* 40 Fed. Reg. 31320, 31324 (July 25, 1975). This definition was codified at the time at 33 C.F.R. § 209.120(d)(2).

[15] Oversight Hearings on Section 404 of the Clean Water Act: Hearings Before the Subcommittee on Environmental Pollution of the Senate Committee on Environment and Public Works, 99th Cong., 1st Sess. 115 (June 10, 1985) (statement of Sen. Mitchell).

[16] *Id.* It seems reasonable to conclude that if the migratory bird policy had already emerged as a reasoned outgrowth of the Corps' administration of the Act, the Army's highest officer in charge of the Corps' regulatory policies would have been able to answer this question at the hearing.

Eight weeks later EPA gave the Senator the answer he wanted. In a legal memorandum, EPA General Counsel Francis S. Blake stated that "if the evidence reasonably shows that the waters 'are used or would be used' by migratory birds or endangered species, it is covered by EPA's regulation." [18] The Corps circulated this memorandum to its district offices, and the migratory bird policy came to life.[19]

Significantly, at the time the Corps was embracing the Senator's position, it was consolidating its various permitting regulations pursuant to the requirements of the Administrative Procedure Act, 5 U.S.C. § 553. Although one of the regulatory provisions under review was the definition of "waters of the United States," the Corps did not revise its definition to incorporate the new migratory bird policy. 51 Fed. Reg. 41206, 41250 (November 13, 1986) (*codified at* 33 C.F.R. § 328.3(a)).[20]

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[17] *See* Oversight Hearings on Section 404 of the Clean Water Act: Hearings Before the Subcommittee on Environmental Pollution of the Senate Committee on Environment and Public Works, 99th Cong., 1st Sess. 163 (July 15, 1985).

[18] EPA Memorandum from Francis S. Blake, General Counsel, to Richard E. Sanderson, Acting Assistant Administrator of the Office of External Affairs, "Clean Water Act Jurisdiction over Isolated Waters" at 3 (September 12, 1985) (copy lodged with Clerk's Office).

[19] Patrick J. Kelly, Brigadier General, Deputy Director of Civil Works, "EPA Memorandum on Clean Water Act Jurisdiction Over Isolated Waters" (November 8, 1985) (copy lodged with Clerk's Office).

As this background demonstrates, the Corps did not have a "detailed and reasoned" justification that such broad jurisdiction is needed to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Similarly, the migratory bird policy was not enunciated contemporaneously with the enactment of the Act, and the interpretation has not been applied in a consistent and longstanding manner. Instead, the policy appears to be the result of pressure by a single Senator. In the absence of clear congressional authorization or a demonstrated justification that such jurisdiction is needed to attain the purposes of the Act, the Corps' migratory bird policy is not entitled to deference by this Court.

III. SUPREME COURT GUIDANCE IS REQUIRED TO RESOLVE THIS IMPORTANT ISSUE THAT HAS DIVIDED THE COURTS OF APPEALS

The migratory bird policy has also divided the two Courts of Appeals that have reviewed this issue. As stated above, the Ninth Circuit held that the Corps may assert jurisdiction over isolated waters since they are encompassed within the regulatory definition of "other waters," because migratory birds use or could use these properties. *See Leslie Salt*, 896 F.2d at 360. Over one year ago, however, the Fourth Circuit invalidated the Corps' assertion of jurisdiction over isolated wetlands on the basis that they could be used by migratory birds. *See Tabb Lakes, Ltd. v. United States,* 885 F.2d 866 (Table), 20 Env. L. Rep. (Env. L. Inst.) 20008 (4th Cir. 1989) (per curiam). In that case, the Fourth Circuit determined that the Corps' migratory bird policy was announced in violation of the notice and comment provisions of the Administrative Procedure Act.[21]

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[20] The preamble to the regulations, which has no legal authority, noted, however, that "EPA has clarified that waters of the United States" also includes waters "[w]hich are or would be used as habitat by birds protected by Migratory Bird Treaties" and "[w]hich are or would be used as habitat by other migratory birds which cross state lines." *Id.* at 41217.

This split among the courts of appeals has resulted in a lack of uniformity in implementing the geographic reach of Section 404 of the Act to isolated waters. In response to the Fourth Circuit's *Tabb Lakes* decision, the Corps and EPA issued a directive to their field offices stating that they would not apply the migratory bird policy in the Fourth Circuit (*i.e.*, the states of South Carolina, North Carolina, Virginia, West Virginia, and Maryland), but would continue to apply this policy outside these states.[22] This differing application of the reach of Section 404 lacks any legal or equitable basis, and warrants resolution by the Supreme Court.[23]

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[21] The Ninth Circuit in *Leslie Salt* did not address the procedural issue raised by the Fourth Circuit in *Tabb Lakes.* Thus, we have focused on the substantive issues raised by the migratory bird rule. As the Fourth Circuit held in *Tabb Lakes,* however, we note that the Corps' failure to promulgate this rule in accordance with public notice and comment constitutes a violation of the Administrative Procedure Act and is an independent basis for reversing the decision of the court below.

[22] John P. Elmore, Directorate of Civil Works, and David G. Davis, Director of Office of Wetlands Protection, "Clean Water Act Section 404 Jurisdiction Over Isolated Waters in Light of *Tabb Lakes v. United States*" (January 24, 1990), Petition for a Writ of Certiorari of Petitioners, Appendix E at A-46.

[23] The Corps also stated in this memorandum that the Corps and EPA "intend to undertake as soon as possible an [Administrative Procedure Act] rulemaking process regarding jurisdiction over isolated waters." *Id.* at ¶ 2, Petition for a Writ of Certiorari of Petitioners, Appendix E at A-48. More than 20 months after *Tabb Lakes* and one year after issuance of this memorandum, however, the Corps and the EPA have not initiated rulemaking on this issue.

CONCLUSION

This Court should grant the petition and clarify the extent of federal jurisdiction under the Act. The issue raised by this case affects property owners throughout the United States. If the decision of the Ninth Circuit is left to stand, the Corps can exercise jurisdiction over virtually any isolated "wet" area on the premise that it "could" be used by migratory birds. This result is unsupported by the legislative history of the Act, and is in conflict with another federal appellate decision. For these reasons, the Supreme Court should grant the petition for a writ of certiorari.

Respectfully submitted,

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Dated: January 22, 1991

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National Audubon Society

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February 11, 1991

The Hon. John J. Lafalce
Chairman
Small Business Committee
RHOB 2361
U.S. House of Representatives
Washington, D.C. 20515

Re: Impact of Wetlands Protection Regulations on Small Businesses

Dear Rep. Lafalce:

The National Audubon Society has learned that hearings are being held before the House Small Business Committee on the impact of wetlands protection regulations on business development. These hearings offer an important opportunity to examine some of the confusion that appears to have arisen in the last year with respect to the administration of the federal wetlands regulatory program. Audubon has a considerable interest in both the protection of wetlands and the integrity of federal wetlands regulatory programs and, therefore, respectfully submits these comments to be included in the hearing record.

Audubon's comments for the hearing record of the Small Business Committee can be summarized as follows:

- The Nation is united about the value of the wetlands resource and the need to protect it.

- Legislative history and court interpretations of the Clean Water Act demonstrate conclusively that Congress did intend for the Act to be used to protect wetlands.

- The current 404 Program has not halted the development of wetlands. Wetlands continue to be lost at a rate of 300,000 to 400,000 acres per year.

*** The issuance of the Federal Wetlands Delineation Manual does not represent a change in Federal wetlands policy; it merely makes the policies of the various Federal agencies with jurisdiction over wetlands consistent with one another.**

* The technical criteria for wetlands identification set forth by the Federal Wetlands Delineation Manual are based on accepted scientific standards and years of agency experience; any change to these criteria or to the legal definition of wetlands will undermine the scientific principles on which the Clean Water Act is based.

* The Federal agencies involved in the Program are trying to eliminate some of the administrative bottlenecks associated with the 404 Program. This administrative response should be allowed to complete itself before alterations to the Program are considered.

* Recent decisions of the U.S. Court of Claims that denial of a 404 permit constitutes a "taking" requiring Federal reimbursement are aberrations from current law.

Audubon is a non-profit conservation organization with over one half million members dedicated to the protection of our environment and the wise use of our natural resources, including wetlands. Protecting the nation's important wetland resources has long been a high priority of Audubon. Audubon has devoted significant resources to public education on wetland values, management of its wetlands (Audubon owns over 200,000 acres of wetlands and wet meadow habitat) and scientific research on wetland characteristics.

Audubon was one of several organizations selected by former Environmental Protection Administrator Lee Thomas to serve on the National Wetlands Policy Forum. The Forum was convened by EPA to formulate recommendations on how federal, state and local wetlands policy could be improved and the resource better protected and managed.[1] President Bush adopted the Forum's "no net loss of wetlands" national protection goal as the centerpiece of his Administration's wetlands program.

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[1] The Forum's recommendations can be found in, ***Protecting America's Wetlands: An Action Agenda*** (Washington, D.C.: Conservation Foundation, 1988).

Ironically, many of the Forum's recommendations, including the goal statement, appear to be at the center of the current criticism being leveled against the program by representatives of the very business interests (real estate, oil and gas, agriculture, forestry, and ranching), who, as participants in the Forum, endorsed these same recommendations. For example, the Forum unanimously recommended that the federal agencies coordinate wetlands identification, enforcement of wetlands violations and mitigation of wetland losses. The federal agencies promptly responded to these recommendations by entering into three Memoranda of Agreement,[2] and by publishing the Federal Wetlands Delineation Manual,[3] which has been the source of recent controversy. Each of these documents reflected prior policy being pursued by one or more of the four agencies. The only thing new about the documents is that the differences between the agencies in these areas were eliminated, to ensure that consistent policies be pursued in the field. Yet the MOAs and the Manual have generated howls of protest, including the legally insupportable claim that the latter should have been published under the notice and comment provisions of the Administrative Procedure Act.[4]

Audubon is concerned that the hearings may be premised on several erroneous assumptions. The first erroneous assumption is that the 404 Program is halting the conversion of wetlands. Listening to the Program's critics, it sounds as if no development was going forward in wetland areas. We know that not to be true as the high rate of loss, from 300- to 400-

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[2] Memorandum of Agreement Between the U.S. Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation under the Clean Water Act Section 404(b)(1) Guidelines (February 7, 1990); Memorandum of Agreement between the Department of the Army and Environmental Protection Agency Concerning the Determination of the Geographic Jurisdiction of the Section 404 Program and the Application of the Exemptions under Section 404(f) of the Clean Water Act (January 19, 1989); and Memorandum of Agreement between the Department of the Army and the Environmental Protection Agency Concerning Federal Enforcement of the Section 404 Program of the Clean Water Act (January 19, 1989).

[3] *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*, an Interagency Cooperative Publication (Fish & Wildlife Service, Environmental Protection Agency, Department of the Army, Soil Conservation Service (Washington, D.C.: USGPO 1989)

[4] 5 U.S.C. Sec. 553.

thousand acres per annum,[5] continues, largely unabated. The reason for this high loss rate is that the federal regulatory Program is extremely limited in its jurisdictional scope and has been administered with considerable flexibility by the Corps.

The 404 Program only regulates the discharge of dredged or fill materials into wetlands. Permits are not required for draining or flooding wetland, interfering with the flow of water into a wetland, excavating wetland soils, destroying wetland vegetation or chemically contaminating a wetland; activities which all have significant and lasting impacts on wetlands.[6] Exemptions from the permitting program[7] and the general permitting authority[8] have de-regulated vast areas of the country. This trend has continued with the recent issuance of Regulatory Guidance Letter 90-7, which de-regulates cropped wetlands that were converted prior to 1985 and that do not have standing water for 15 consecutive days during the growing season. It has been estimated that this last example of "regulatory relief" will release over 40 million acres from federal regulatory jurisdiction.

Another misperception that plagues the 404 Program is that the Program is somehow ultra vires, i.e., that Congress never intended Section 404 to be used to protect wetlands. The legislative history of the Clean Water Act and numerous court interpretations of that history belie that perception.[9]

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[5] The U.S. Fish & Wildlife Service recently estimated that, based on the current rate of wetland losses, the nation will lose an additional 4,250,000 acres of wetlands by the year 2000. U.S. Fish & Wildlife Service, *Wetlands: Meeting the President's Challenge, 1990 Wetlands Action Plan* (Washington, D.C.)

[6] See *Wetlands: Their Use and Regulation* (Washington,D.C.: U.S. Congress, Office of Technology Assessment, OTA-O-206, March 1984); *Final Report of the National Wetlands Policy Forum, Protecting America's Wetlands: An Action Agenda* (Washington, D.C.: Conservation Foundation, 1988).

[7] Section 404(f), 33 U.S.C. 1344(f)

[8] Section 404(e), 33 U.S.C. 1344(e)

[9] See e.g., United States v. Riverside Bayview Homes, Inc., 474 U.S. 121 (1985).

Critics of the 404 Program continue to complain about the definition of wetlands, as if by changing the definition all the alleged problems with the administration of the program would disappear.[10] Unfortunately, this simplistic solution is not possible. The definition of a wetland cannot be changed any more than can the definition of water. What constitutes a wetland is a scientific, not policy determination. How a wetland is used is an appropriate policy question, which to date the Congress has recently answered by creating regulatory barriers and financial incentives designed to minimize the resource's destruction.

The Federal Delineation Manual does not "define" what a wetland is. The Manual sets forth the technical criteria and field indicators to be used by the Corps and EPA (to identify jurisdiction wetlands subject to Section 404 of the Act), by the FWS (to identify vegetated wetlands for the National Wetlands Inventory), and by the SCS (to identify wetlands subject to the "Swampbuster" provisions of the Food Security Act of 1985). The Manual was the culmination of years of effort and experience by the four agencies in the field of wetlands identification, drew heavily upon previously published manuals and methods, particularly the *Corps of Engineer Wetlands Delineation Manual*, EPA's *Wetlands Identification and Delineation Manual*, and SCS's *Food Security Act Manual* wetland determination methods. The only thing new or surprising about the Manual was that it reconciled the differences in the three manuals.

No one will dispute that there was, and may still be, confusion and controversy about the Manual's implementation and that the four federal agencies did a poor job of training their personnel in implementation of the Manual and educating the public about its contents and use. Claims that the Manual will subject to regulatory jurisdiction 80 to 90% of developable land are grossly exaggerated and based upon a misapprehension of how the Manual works. The four agencies are in the process of correcting these errors and should be given an opportunity to improve their performance. Audubon believes that it would be a serious mistake for Congress to intrude into the administration of the program before the agencies have had an opportunity to correct the record.

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[10] Until publication of the Manual, another common misperception was that the Corps and EPA were using different definitions. In fact, the Corps and EPA have consistently used a single "regulatory" definition of wetlands i.e., 33 CFR Sec. 323.2(c) and 40 CFR Sec.230.3(t), respectively. The problems between the two agencies lay not with the definition, but with its application in the field. Those differences were the source of considerable concern within the regulated community and conservation groups and resulted in publication of the Manual. The U.S. Fish & Wildlife Service and the Soil Conservation Service have used, and continue to use, definitions different from the one used by the Corps and EPA, and from each other. The reason for this is that these definitions perform different functions than the regulatory definition used by the Corps and EPA.

One can always find "horror stories" of delay and excess cost to permit applicants as well as government regulators in any regulatory program, particularly in one as complex as the 404 wetlands permitting program. The federal agencies in the 404 Program, however, are trying to eliminate some of the bottlenecks to which critics point. For example, the Corps is experimenting with its general permitting authority under the Act with ways to streamline the processing of permits at the federal level and the delegation of federal authority to the states. While Audubon has reservations about the use of the Clean Water Act's general permitting authority and some of the procedures being followed by the Corps, there is an administrative response to a perceived problem, which should be allowed to complete itself. This process is subject to the notice and comment provisions of the Administrative Procedure Act, and will be open to the public. Audubon intends to participate in the process and assumes that many of the interests appearing before your committee during these hearings will do the same.

Recent decisions of the U.S. Court of Claims, which in two instances[11] has held that denial of a 404 permit constituted a "taking" requiring reimbursement by the Federal Government, raise some concern about the effect of permit denials on private property rights. However, those court decisions are an aberration from current law[12] on this point and are being appealed by the government. The U.S. Supreme Court has repeatedly enunciated the general rule that the application of land use regulations to a particular piece of property will only constitute a taking "if the ordinance does not substantially advance legitimate state interest or denies an owner economically viable use of his land."[13] The Court's unanimous decision sustaining the Corps' definition of wetlands in United States v. Riverside Bayview Homes, Inc. should leave no question as well as to whether the 404 permitting program advances a legitimate state interest.

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[11] Florida Rock Industry, Inc. v. United States, 15 ELR 20626 (Cl. Ct. May 6, 1985); and Loveladies Harbor, Inc. v. United States, 15 Cl.Ct. 381 (1988).

[12] See e.g. Deltona Corp. v. United States, 228 Ct. Cl. 476, 489, 675 F.2d 1184, 1192 (Fed. Cir. 1981); Alaska Arctic Gas Pipeline Co. v. United States, 9 Ct. Cl. 723, 726 (1986), aff'd on other grounds 831 F.2d 1043 (Fed. Cir.1987); Agins v. Tiburon, 447 U.S. 255, 260 (1980); see also Keystone Bituminous Coal Ass'n v. DeBenedictis, ____ U.S. ___, 107 S.Ct. 1232 (1987) (sustaining the constitutionality of the denial of a permit to mine coal under a state statute prohibiting mining for coal which causes subsidence damage to pre©existing surface structures); Nollan v. California, ___ U.S. ___, 107 S.Ct. 3141 (1987) (overturning a decision by the California Coastal Commission requiring owner of beach front property to record a public easement over that property on the ground that the challenged condition did not further the end of legitimate ends of the state of assuring that the public be able to see the beach); First English

Regardless of the arguments surrounding the 404 Program, the nation is united about the value of the resource and the need to protect it. As President Bush said

> "I want to ask you today what generations to follow will say of us forty years from now. It could be that they will report the loss of many million of acres more of wetlands. The extinction of species. The disappearance of wilderness and wildlife. Or they could report something else. They could report that, sometime around 1989, things began to change. That we began to hold onto our parks and refuges. That we protected our species. And that, in that year, the seeds of a new policy about our valuable wetlands were sown -- a policy summed up in three simple words: 'no net loss.' I prefer the second vision of America's environmental future."

Agreement is also apparent among both the program's defenders and detractors that the program could be improved with respect to its protective effectiveness and its impact on the regulated community. The National Wetlands Policy Forum unimplemented recommendations stand as mute testament to that fact.

For example, it should not be difficult to find unanimity about the need to improve publicly available information on the value of wetlands, how they function, how these functions can be measured, and how these functions can be affected by various activities. All agree that many unnecessary conflicts could be avoided by simply knowing where the

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Evangelical Lutheran Church of Glendale v. County of Los Angeles, __ U.S. __, 107 S.Ct. 2378 (1987) (remanding for a finding on whether a regulatory or temporary taking had occurred from the refusal to issue a building permit to a church).

[13] United States v. Riverside Bayview Homes, Inc., 474 U.S. 121 (1985).

wetlands are. The availability of this information would at least forewarn individual landowners about the possibility that approval may be necessary before those lands can be converted for some proprietary purpose, and eliminate many instances of unknowing violations of the law or after-the-fact permits. Information on the condition of the resource, the effectiveness of various regulatory and non-regulatory wetlands protection programs, and techniques for restoring degraded wetlands as well as creating new wetlands, will improve the effectiveness of the 404 Program and provide the basis for lessening the Program's impact.

Finally, much can be done at the state and local level within the framework of the current 404 Program to provide incentives to locate development outside of wetland areas. Transferrable development rights, loan guarantees, flexible financing, cluster zoning, and planned unit developments all offer creative alternatives to a developer who owns property containing wetlands. Many of these ideas are being tried out in states like California, New Jersey and Vermont. The federal agencies can be encouraging the use of these devices as they explore with the states delegating Section 404 regulatory authority.

These local land use incentives, however, cannot take the place of a regulatory program like Section 404. That Program must remain in effect to protect wetlands where conflicts about the use of the resource remain. Local incentives can be used to complement the 404 Program, because, to the extent these incentives succeed the use of and need for the regulatory program will diminish.

I hope these comments have been helpful, and that your staff will call upon the staff of the National Audubon Society to assist them in your examination of this critically important area. To provide you with further information about the value of wetlands, I have enclosed a copy of *Ducks Under Siege*, a video production of Audubon Televesion and Turner Broadcasting Systems.

Sincerely yours,

Brooks Yeager
Vice President
Government Relations

Hope Babcock
General Counsel

Statement of the U.S. Chamber of Commerce

ON: The Effect of Wetlands Policy on
The Small Business Sector

TO: The House Committee on Small Business

BY: Stuart B. Hardy

DATE: February 13, 1991

The Chamber's mission is to advance human progress through an economic,
political and social system based on individual freedom,
incentive, initiative, opportunity and responsibility.

The U.S. Chamber of Commerce is the world's largest federation of business companies and associations and is the principal spokesman for the American business community. It represents nearly 180,000 businesses and organizations, such as local/state chambers of commerce and trade/professional associations.

More than 92 percent of the Chamber's members are small business firms with fewer than 100 employees, 59 percent with fewer than 10 employees. Yet, virtually all of the nation's largest companies are also active members. We are particularly cognizant of the problems of smaller businesses, as well as issues facing the business community at large.

Besides representing a cross section of the American business community in terms of number of employees, the Chamber represents a wide management spectrum by type of business and location. Each major classification of American business--manufacturing, retailing, services, construction, wholesaling, and finance--numbers more than 10,000 members. Yet no one group constitutes as much as 32 percent of the total membership. Further, the Chamber has substantial membership in all 50 states.

The Chamber's international reach is substantial as well. It believes that global interdependence provides an opportunity, not a threat. In addition to the 59 American Chambers of Commerce Abroad, an increasing number of members are engaged in the export and import of both goods and services and have ongoing investment activities. The Chamber favors strengthened international competitiveness and opposes artificial U.S. and foreign barriers to international business.

Positions on national issues are developed by a cross section of its members serving on committees, subcommittees and task forces. Currently, some 1,800 business people participate in this process.

STATEMENT

on

THE EFFECT OF WETLANDS POLICY ON THE SMALL BUSINESS SECTOR

for submission to the

HOUSE COMMITTEE ON SMALL BUSINESS

for the

U.S. CHAMBER OF COMMERCE

by

Stuart B. Hardy

February 13, 1991

The U.S. Chamber of Commerce is pleased to provide its views on the effect of wetlands preservation policy on the small business community. The Committee on Small Business is to be commended for conducting hearings on this timely and complex issue. The Chamber shares Chairman LaFalce's view that wetlands preservation is an appropriate national goal that can and should be achieved without unreasonable regulatory burdens on the small business community and other landowners.

Unfortunately, the current version of the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* needlessly broadens the range of wetlands designations and does not adequately distinguish between values and functions. Consequently, areas with only marginal environmental value are included. For example, the *Delineation Manual* lists more than 7,000 species of vegetation as indicators of wetlands, yet more than 5,000 of these species also occur with some frequency in areas that are not wetlands. In addition, there are thirteen "special conditions" under which only one or two of the three wetlands attributes need be present for the land to be designated a wetland.

The Chamber does not quarrel with the Bush Administration's goal of "no net loss of wetlands." Wetlands have important ecological and biological functions including flood prevention, fish and game habitat, shoreline erosion control, and filtration of pollutants that can seep into drinking water supplies. Moreover, wetlands have been disappearing at a worrisome rate - as high as 350,000 to 400,000 acres per year according to the Office of Technology Assessment. However, an inflexible interpretation of "no net loss," as exemplified in the current version of the *Delineation Manual*, makes the cure worse than the disease. Specifically, the Chamber has the following concerns about the effects of wetlands policy on small businesses.

Individual landowners should not bear the burden of a "no net loss of wetlands" policy.

All segments of society, both public and private, must play major and equal roles in the establishment and maintenance of environmental resources. If wetlands are determined to be a public asset, then the entire public -- not just landowners -- should bear the cost of preserving that asset. Yet today it is landowners alone who, through their property taxes, bear the economic burden for lands designated to be preserved for the public good. At the same time, an inflexible approach to "no net loss" is severely limiting the options available to these landowners for use of their property, causing property values to plummet. In effect, this is a "take" of private property.

An inflexible "no net loss" policy will have significant financial implications for the

Federal government as well. In March, 1988, Executive Order 12630, *Governmental Actions and Interference with Constitutionally Protected Property Rights*, was issued. This order requires that

> "...government decision makers evaluate carefully the effect of their administrative, regulatory, and legislative actions on constitutionally protected property rights...to prevent unnecessary takings."

In setting forth the general purposes of the Order, then-President Reagan said,

> "Actions undertaken by government officials that result in a physical invasion or occupancy of private property that substantially affect its value or use, may constitute a taking. Undue delays in decision making during which private property use is interfered with carry a risk of being held to takings."

Already, in two separate decisions, a Claims Court judge has ruled that the U.S. Army Corps of Engineers' (Corps) refusal to issue a permit constituted a "regulatory taking" and that the government must reimburse the owners for the fair market value of their land before the taking occurred. The first case was *Florida Rock Industries, Inc. v. The United States*; the government was ordered to pay the company more than $1 million plus interest from the date of the taking. The second case was *Loveladies Harbor, Inc. v. The United States*; this time, the government was ordered to pay the company more than $2.6 million plus interest.

Land use planning is a local concern.

Land use planning and the establishment of land use goals must provide for a balance among economic, national security, and community needs with recognition of environmental and aesthetic values. State governments bear the responsibility of establishing planning goals best suited to each state after careful consideration of local, regional, and interstate needs. Federal imposition of an inflexible "no net loss" policy violates the traditional role of states in establishing land use planning systems that satisfy the particular economic, resource, social, and environmental needs of each state. The Federal government should not infringe upon the states' ability to engage in the multiple use of their natural resources.

The growth of local and regional economies will suffer.

The future health and growth of communities vitally depends on readily accessible transportation links; affordable housing; commercial and industrial activity; water resource facilities; and the construction and modernization of health facilities, schools, and all public buildings. In many regions of the country having significant wetlands acreage, an inflexible "no net loss" policy is severely restricting employment opportunities, as well as community and residential development. The lack of developable land and the drop in value of lands designated as wetlands will ultimately reduce local tax revenues, and this shortfall will be passed on to other taxpayers.

Furthermore, the strict sequencing approach to wetlands mitigation required by the Memorandum of Agreement between the Corps and the Environmental Protection Agency is significantly increasing the costs of commercial and residential development. The sequencing approach means that a developer must investigate alternative sites that would not require discharges of dredged or fill material onto wetlands, regardless of whether the developer has an option or ownership rights to the alternative sites. Extensive project modification and wetlands restoration and creation are extremely costly and time consuming. Ultimately, these additional costs of development will be reflected in the price the consumer pays for final goods and services.

Natural resource development and the growth of industry will be compromised.

An inflexible "no net loss" policy would restrict the development of the nation's natural resources. Mining activity, oil and gas development, and agricultural productivity would all be compromised. Because natural resource development must occur at the geological location of the resource, avoidance is impossible. Moreover, on a case-by-case basis, mitigation may be precluded because of limited availablity of suitable acreage. With a more flexible approach, the coal mining industry, for example, can in fact restore and create more wetlands than it affects as it reclaims mined lands to a higher or better use than what existed prior to the mining. Construction and modification of major industrial facilities would be affected as well. The public will ultimately bear the financial burden of an inflexible "no net loss" policy as costs are driven up in all sectors of the economy and the business sector loses its ability to sustain international competitiveness. In the final analysis, the public will suffer far more severely under this scenario than if the initial burdens resulting from an inflexible "no net loss" policy were not borne solely by landowners and business.

Congress has already taken significant steps to protect wetlands.

During the past five years, Congress has responded to the challenge of protecting wetlands in five separate statutes, as follows:

- **The Food Security Act of 1985** included "swampbuster" provisions denying farm program benefits to farmers who plant crops on wetlands converted after 1985. Violators are denied price support and deficiency payments, disaster payments, and certain kinds of operating loans. Cropped wetlands were also made eligible for enrollment in the Conservartion Reserve Program.

- **The Tax Reform Act of 1986** removed several tax incentives to convert wetlands to farmland through drainage.

- **The Emergency Wetlands Acquisition Act of 1986** established the National Wetland Priority Conservation Plan aimed at fulfilling U.S. obligations under the North American Waterfowl Management Plan.

- **The North American Wetlands Conservation Act and Coastal Wetlands Conservation and Restoration Act of 1989**, which were jointly enacted, created a wetlands trust fund to finance coastal wetland programs and wetland acquisition.

- **The Food, Agriculture, Conservation and Trade Act of 1990** strengthened the "swampbuster" provisions of the 1985 Act and added a new Wetlands Conservation Program.

It is too early to measure the full effect of these measures on conversion activities, but taken together, they are expected to curtail sharply the future loss of wetlands. In any case, they should be given a chance to work before further land use restrictions are enacted.

The Chamber thanks the Committee for this opportunity to state its views on wetlands policy and appreciates the Committee's leadership on small business issues.

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TESTIMONY OF PAUL D. KAMENAR
EXECUTIVE LEGAL DIRECTOR, WASHINGTON LEGAL FOUNDATION

before the
Committee on Small Business
United States House of Representatives

February 6, 1991

Mr. Chairman and Members of the Committee:

The Washington Legal Foundation represents John Pozsgai, a self-employed truck mechanic from Morrisville, Pennsylvania who was given a three-year jail term, and fined over $200,000 for placing topsoil and clean fill on a couple of acres of his own property-- an old dumpsite in an industrial area of town near Trenton, New Jersey that he cleaned up after he purchased it in 1987-- because he did not have a Section 404 permit from the Corps which determined that parts of the property were marginal wetlands. This is the longest prison sentence in the history of the United States for any environmental offense, including the dumping of toxic and hazardous materials. Not a single bird, fish, or sea lion was killed, injured, or even threatened by the fill material. Indeed, the government does not dispute an expert's finding that the tiny stream next to the property actually runs clearer today than before Mr. Pozsgai purchased the property due to his cleanup efforts.

The court of appeals refused to hear the case and summarily affirmed the conviction and sentence, and the Supreme Court denied review. Mr. Pozsgai began serving his three-year jail term in Allenwood Federal Prison on November 23, 1990, the day after Thanksgiving, leaving his ailing wife, also a Hungarian immigrant, without his support. This case is discussed later in this testimony in some detail.

In Florida, a 58-year old man and his son Ocie and Cary Mills, have just finished serving a two-year jail term for placing 19 loads of clean building sand on a half-acre of their property to build a retirement home. Both the Pozsgai and Mills cases have received nationwide media attention on shows such as Good Morning America, CNN World News, and CBS Evening News. A videotape of these excerpts are available to the committee.

These two cases typify agency enforcement run amok which has little to do with protecting environmental turf and more to do with protecting regulatory turf.

The Washington Legal Foundation (WLF) is a non-profit public interest law and policy center with approximately 120,000 members and supporters nationwide. WLF litigates, participates in the administrative process, and contributes to the public debate, including testifying before Congress, on issues affecting the free enterprise system, individual rights, and judicial reform.

With respect to environmental issues, we have participated in many court cases on behalf of ourselves as well as numerous Members of the Congress and Senate, where environmental laws, such as the National Environmental Protection Act (NEPA) were used by environmental groups to stop vital national security projects. More particularly, we have litigated several cases relating to wetlands enforcement such as the Pozsgai case where we believe that the Environmental Protection Agency and/ or the Corps were insensitive to private property rights and engaged in enforcement overkill.

While we believe our important natural resources need to be conserved, we believe as President George Bush stated in last year's State of the Union Address, that the "needs of a clean environment" must be reconciled with the "needs of a strong economy." In this year's State of the Union speech, the President also decried a democracy by a federal bureaucracy, an apt description of the bureaucratic problems facing small businesses and property owners in dealing with EPA and the Corps of Engineers.

In addition, we believe that the EPA and Corps have been totally oblivious to other constraints on their activities, especially the application of Executive Order 12630 requiring agencies to conduct a "Takings Implications Analysis" and the Paperwork Reduction Act requiring OMB control numbers for their regulations and application forms that request information from the public.

In addition, our office is being flooded with numerous requests for legal assistance from senior citizens, farmers, small businessmen, and others, who are unreasonably being denied their right to develop a few acres of their own property, threatened with enormous fines and criminal prosecution.

Our primary concern is that the EPA and Corps of Engineers have taken the Clean Water Act and administratively transformed it into some kind of Wetland Protection Act without the authorization of Congress and full public debate over the ramifications of their actions. The Clean Water Act's goal of having our waters to be "swimmable" and "fishable", while laudable, are being ignored by the EPA while it spends countless tax dollars enforcing its regulations against the placement of fill on property marginally a wetland, and having nothing to do with the water being clean or "swimmable" or "fishable." In short, what we have is the regulatory tail wagging the statutory Congressional dog. The word "wetlands" is nowhere defined in the law. Neither the President nor an agency can unilaterally impose a law, no matter how beneficial it may be to the environment.

If wetlands are that important, then Congress can and must address that issue squarely in legislation as have many States rather than leaving the enforcement of this vaguely defined policy against your constituents to the whim and caprice of uncontrolled regulators. In that regard, Congressman Ridge and others have pending bills which would at least categorize wetlands by their ecological value. It should be noted that not all wetlands are important; indeed, there are even some wetlands that according to government studies actually degrade water quality by causing high levels of nitrogen, a pollutant. Office of Technology Assessment, OTA -2-206, Wetlands: Their Use and Regulation (1984). Along these lines, it should be noted that at last week's hearings, the EPA witness indicated that in the past, many thought wetlands were just breeding grounds for mosquitos and should be filled in. However, there are health officials who recommend exactly that because such mosquitos can transmit dangerous malaria and other diseases, and in Florida, there have been some such reported cases. On this score, the EPA and Corps try to have it both ways. In a recent letter to the Altieri Construction Co. in Edison, New Jersey, the Corps objected to pilings being placed in wetlands because it might cause pools of water around the pilings which would attract--"mosquitos"!

In one case, United States v. Bersani, 850 F.2d 36 (2d Cir. 1988) WLF intervened on behalf of Citizens in Support of Attelboro Mall, a citizens group that strongly supported the building of a much needed shopping mall in their economically depressed community. WLF opposed the exercise of the vetoing authority by the EPA under 33 U.S.C. 1344(c) over the permit granted by the Corps of Engineers to fill in a portion of Sweedens Swamp in Attleboro, Massachusetts, an isolated "wetland" not adjacent to any tributary of any water of the United States. Nevertheless, the Corps assumed regulatory authority over this private property that was more of an eyesore to the community, having been used as a dumping grounds for years. In any event, the developer offered to mitigate any damage to the swamp both on-site and creating additional wetlands off-site. The developer agreed to post a million dollar bond, and begin mitigation efforts before any filling activity of the site.

The Corps of Engineers, which is usually reluctant to grant such filling permits, determined that the project in this case was environmentally sound, and that the net environmental value of the project would be one, to one and a half times greater than the status quo. Nevertheless, the EPA exercised its veto over the permit, finding that the wetland served some habitat for a few birds and some common mammals, and although the loss of such wildlife habitat was not significant in and of itself, the EPA looked at the loss of wetlands both regionally and nationally to penalize unfairly the developer who was prevented from using his property.

Under this rationale, the EPA can veto any permit on the non-statutory basis that in its view, enough wetlands have been filled, even though section 404(c) requires that the EPA look only at the impacts at the site in question, as opposed to considering unconnected wetlands regionally or nationally. For under the latter analysis, the EPA could always veto any Corps permit on the grounds that enough wetlands have been lost.

The actual decision in the case turned on the alternative site test imposed by the EPA, that is, whether another non-wetland site was available to the developer since the shopping mall was not water dependent. While we agree with the dissenting judge in that case, we believe the alternative analysis test is inapplicable to projects that are proposed for isolated wetlands, since by definition, they cannot be water dependent. In other words, if a project is proposed that requires filling of a wetland adjacent to a river or bay, the Corps will not require an alternative analysis test if the project is dependent on it being near the water, such as marina facilities. However, for isolated wetlands, by definition, there can never be a water dependent project since there is no water to be used. In short, those who propose to develop their land which contains isolated wetlands are penalized compared to those who conduct filling activity near open water, and thus, more likely to harm the interests Congress sought to protect most by enacting the "Clean Water Act".

UNITED STATES v. JOHN POSGAI

John Pozsgai is a self-employed truck mechanic who works, as he has for the last ten years, 7-days a week, out of a small garage beyond his house fixing trucks to support himself, his wife, and his two daughters. Prior to that he had worked for International Harvester in Trenton before it closed its doors in 1980. His house is located across the street from a 14-acre dumpsite in an industrial area of Morrisville, Pennsylvania near Trenton, New Jersey which had been used for over 20 years as a dumping ground and land fill. The property is bordered on the north and south by major roads, to the east by a tire dealership, and on the west by an automobile salvage yard. Mr. Pozsgai saw that property not as a dump, but as an opportunity to fulfill a lifelong dream of buying a piece of property on which he could build a garage to expand his small truck repair business.

Having saved enough money for a down payment, he purchased the property in June 1987 and mortgaged his small wooden-frame house to finance the purchase. He then began the herculean task of cleaning the property up by removing over 7,000 used tires that had been dumped there over the years, along with other accumulated junk such as rusted auto body parts, before placing clean fill and topsoil on 5 acres of the site.

Meanwhile, the Environmental Protection Agency and Corps of Engineers paid several visits to Mr. Pozsgai claiming that part of the dumpsite contained some "wetlands" and therefore required a permit from the federal government before fill could be placed on the land. The site, however, is not listed on the Department of Interior's National Wetland Inventory Map, and certainly did not appear to be a "marsh, swamp, or bog" which the Corps claims are typical wetlands.

The EPA claims it had federal jurisdiction over this so-called "wetland" because the land is adjacent to a tiny stream which borders the property on the east. This "stream," which was dry most of the year, was a few feet wide, and had a tendency to flood a portion of the site after heavy rains due to the damming effect caused by the old tires thrown into the stream. Once the tires were removed, the flooding would cease. To the EPA and the Corps, however, the cause of the "wetland" conditions, is irrelevant. It was also irrelevant that Mr. Pozsgai did not put any fill into the stream. Indeed, Mr. Pozsgai had installed a protective silt skirt fence along the stream after consulting county officials.

As far as the EPA and Corps were concerned, once they make a determination that the property is a wetland, federal jurisdiction comes into play. Yet there are "wetlands" and then there are so-called "wetlands." The familiar type of wetlands are estuaries, marshes, swamps, and bogs near open bodies of water that can serve as fish and wildlife habitats, or as a filtering area for pollutants that might otherwise affect water quality. Mr. Pozgai's property is in an industrial area of town, far from any ocean, bay, or river. No one claims that this "wetland" is a marsh, swamp, bog, or anything close to it. Nor does it serve as a fish or wildlife habitat, unless you want to count a few squirrels. Nevertheless, the Corps cursory soil samples of the site as well as the presence of such "rare" vegetation as"skunk cabbage," and Sweet Gum trees, a common variety of tree, indicated to the Corps that most of the dumpsite was technically a "wetland.

Indeed, so insignificant is this "wetland," that the Corps has a regulation that authorizes placing fill on 10 acres or less of "wetlands" that are essentially isolated. If a citizen wishes to take advantage of the regulation, no application for a permit is required to be completed by the Corps own regulations. Yet in typical Catch-22 fashion, the Corps was demanding that Mr. Pozsgai fill one out. With the help of his daughter, Mr. Pozsgai tried in vain to get several engineers to complete the confusing and complicated paperwork.

The EPA had enough of Mr. Pozsgai placing topsoil on his own property, so they set up secret surveillance video cameras to record some of the filling activity. They then obtained an temporary restraining order without any hearing. This property was so valuable that the Corps felt it unnecessary to even give a call to the company which had placed most of fill on the property for over a year, even though they knew the telephone number. Armed with this evidence as well as several aerial photographs, the EPA had Mr. Pozsgai arrested and indicted in September 1988 for "discharging pollutants into waters of the United States." Keep in mind that the "pollutants" consisted of earth, topsoil and clean fill. The EPA readily admits that no toxic or hazardous waste was involved. Keep also in mind that the "waters of the United States" was not the tiny stream on Mr. Pozsgai's property, but the adjacent dumpsite that had been determined to contain "wetlands." There was no damage to water quality; if anything, the stream ran clearer because of Mr. Pozsgai's clean-up efforts. But again, the EPA is not concerned with water quality and whether our rivers and lakes are "swimmable" and "fishable"; rather, they're concerned with how far their jurisdictional authority can be stretched, regardless of the goal set by the Congress.

The government was going to spare no expense in criminally prosecuting this "major" water polluter (although there are ample administrative and civil remedies available to the EPA to handle these minor regulatory matters). Drug dealers and violent criminals would have to wait the prosecutor's attention.

The trial took place during the holidays from December 26-30, 1988. The lead prosecutor, Assistant U.S. Attorney Seth Weber was so confused by the Clean Water Act's requirements himself that he mistakenly thought that Mr. Pozsgai needed a National Pollutant Discharge Elimination System Permit under Section 402 of the Clean Water Act from the EPA which is required for factories discharging wastes into water rather than a simple fill permit from the Corps of Engineers. Nevertheless, the jury, obviously impressed with the videotapes and the government's expert witnesses, found Mr. Pozsgai guilty.

On July 13, 1989, Mr. Pozsgai received his sentence. At the urging of the prosecutor, U.S. District Court Judge Marvin Katz sentenced Mr. Pozsgai, who has no criminal history, to three years in jail, the maximum sentence under the Clean Water Act, fined him over $200,000, ordered him to be placed on probation for 5 years after he serves his 3-year prison term, and to restore the property not to what it was, but to a pristine wetland according to plans by the Corps of Engineers. The judge and prosecutor ignored the probation report that this "crime" was not serious, that Mr. Pozsgai's wife, also a Hungarian immigrant, has a heart condition and that jailing her husband, her sole support, would likely kill her, and that the fines would impoverish Mr. Pozsgai who has a negative net worth and a meager income. Rarely do we see such examples made of rapists, child molesters, or drug dealers.

The Washington Legal Foundation was asked by Mr. Pozsgai to represent him on appeal before the United States Court of Appeals for the Third Circuit. On January 12, the Third Circuit upheld the conviction without any opinion at all, and on October 1, 1990 the Supreme Court denied review even after the Solicitor General of the United States, Kenneth Starr, admitted to the Supreme Court that the prosecutor failed to introduce direct evidence on jurisdiction in the case and that the government misrepresented key evidence in the court of appeals brief. The sentence imposed on Mr. Pozsgai was the longest prison term, and largest fine on an individual in the Nation's history for violating the Clean Water Act, or, for that matter, any other environmental law. Research by WLF of all environmental crimes from fiscal years 1983-1989 show that the usual disposition of environmental crimes is by a moderate fine and probation. In the rare case, a small jail term may be imposed for a serious polluter dumping toxic or hazardous wastes.

Why was Mr. Pozsgai targeted for the most serious penalty the law has to offer for simply putting clean fill on his own property? To quote the prosecutor, "a message must be sent to all land owners, the corporations, the developers of this country" that fines, probation, and short prison terms are a thing of the past for environmental offenses, especially those involving wetlands, because of President Bush's no net-loss of wetlands policy.

The government means business, at least when it comes to prosecuting the little guy. For at the same time federal prosecutors were going after Mr. Pozsgai as if he were Public Enemy No. 1, they were prosecuting another major water polluter in Florida. Ocie Mills, a 57-year old retiree, and his son were convicted and sentenced to two years in jail for placing only a half-acre of clean fill and topsoil on his property without a permit, even though Florida officials informed him that none was required. Ocie Mills, who defended himself, proved no match to the three federal prosecutors assigned to the case. Unlike Mr. Pozsgai, who was luckily placed on bail pending appeal, Mr. Mills was ordered incarcerated while his appeal works its way through the courts. Mr. Mills has already served 10 months of his sentence.

In short, the government intends to use the Pozsgai case as a precedent to start imprisoning corporate officers and other businessmen for environmental offenses, even though heretofore, wetland cases have been prosecuted only in civil proceedings. The Justice Department and the EPA eagerly point out to the press the "Pennsylvania and Florida cases" as examples of how tough they can be on water polluters without discussing any of the facts in those cases.

As for explaining how a typical arsonist would receive a much more lenient sentence than that meted out against Mr. Pozsgai, the Justice Department responds in its appeal brief that arson "is directed at a limited number of victims" whereas the victims of Mr. Pozsgai's so-called crime "include the public at large."

The government also takes great offense at the Foundation's other arguments on appeal. For example, we argue that the statutory definition of "pollutants" means a discharge of wastes into "water" not "wetlands," and that therefore, since Mr. Pozsgai did not dump anything into "water," no crime took place. The Justice Department finds our interpretation of "water" to mean liquid "water" to be an "innovative reading of the Clean Water Act." Only to government bureaucrats at the EPA and Corps of Engineers, with an ever-increasing jurisdictional appetite, would the placing of earth on other earth constitute a discharge pollutants into water. Look who's being innovative.

As for failing to prove at the trial that stream was a tributary to the Pennsylvania Canal, or that the canal was used in interstate commerce (both of which are prerequisites to federal jurisdiction) the government had no testimony showing the stream was a tributary. The only evidence they point to are two aerial photographs which the EPA claims show the stream as flowing into the canal. Those photographs had been mysteriously missing from the clerk's office until after the briefing was over in the case. When finally located, a glance at the photographs do not show the stream as tributary since Mr. Pozsgai's property is separated from the canal by no less than a 4-lane major highway. As for the government's failure to show that the canal was used for interstate commerce, the government blithely responds that the dictionary defines "canal" as a waterway used in navigation and the jury can simply assume it was used in interstate commerce. Lewis Carroll's Queen of Hearts of"conviction first, trial later" and "words mean precisely what I want them to mean" fame would be jealous.

We also point out that by the Corps' own estimation, over 97 percent of the permit applications are granted, or so they claim. If that is true, then Mr. Pozsgai was prosecuted for not harming the environment, but merely not having a permit to place clean fill on his property. Indeed, Mr. Pozsgai has an appeal pending before the Pennsylvania Environmental Hearing Board to review that state's denial of what otherwise would be a routine after-the-fact permit, especially where Pennsylvania has conceded that these were not important wetlands at all. It would certainly be a gross miscarriage of justice if Mr. Pozsgai were to spend three years in jail and be liable for $200,000 in fines if he were to get an after-the-fact permit that not only authorizes the fill already placed on 5-acres of the 14-acre site, but also permit him to place fill on yet another 5 acres because of the 10-acre nationwide permit exception for insignificant wetlands such as those here.

There are over 290 million acres of wetlands in the United States. While certain wetlands are important, it seems totally unreasonable and unjust to impose the maximum penalties of the law on the loss of a few insignificant acres of a so-called "wetland." The EPA and Corps would have wetland protection be on a par with the Endangered Species Act. In Pennsylvania, where Mr. Pozsgai was prosecuted, reports indicate that there was a net gain of some 10,000 acres of wetlands from the 1950's to 1970's.

The Congress, Justice Department, and White House, need to take a hard look to determine whether overzealous prosecutors and EPA and Corps officials are invoking President Bush's concern for the environment to justify unreasonable enforcement actions. Unfortunately, a December 1990 EPA memo promises to launch a Spring Offensive against citizens who violate Section 404. To most Americans, scarce agency resources would be better spent curtailing serious polluting activities, and that criminal prosecutorial resources would be better spent fighting drug dealers or rapists than imprisoning senior citizens whose only crime was to try to realize the American dream of owning and developing their own property.

We agree with the Chairman's observation at the hearings last week, January 30, 1990, that the Delineation Manual is in need of major revision and should be subject to comment.

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★★ Eastern Edition THURSDAY, JANUARY 11, 1990 White Oak, Maryland

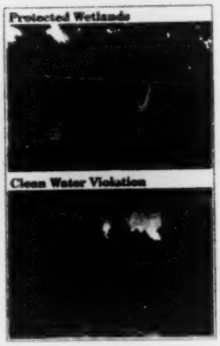
REVIEW & OUTLOOK

Property Busters

Fans of "Ghostbusters" will recall that the movie featured a pompous bully from the Environmental Protection Agency. Well, life is imitating art in Morrisville, Pa., where a flabbergasted truck mechanic is discovering how little regard the EPA has for property rights. Somehow only Bill Murray could muster the bemused astonishment needed for this role.

John Pozsgai is a 57-year-old self-employed mechanic who bought and tried to improve what amounted to an illegal dump next to his home. For his trouble, he's earned a criminal sentence of three years in prison and a $202,000 fine for fouling U.S. "wetlands." If his experience is the shape of environmental law enforcement to come, Mr. Pozsgai can be forgiven for wondering why he ever fled Communist Hungary in 1956.

Mr. Pozsgai set off on his crime spree when he bought a nearby lot to expand his back-yard truck repair business. The 14-acre lot would remind no one of the Everglades. It's bordered by a tire shop, lumberyard and four lane expressway, and for 20 years was used by neighbors as an unofficial dump site. Its only endangered species were 7,000 old tires, rusting cars and assorted junk. Mr. Pozsgai proceeded to clear the mess and spread a layer of clean landfill eagerly deposited by area contractors, as the nearby photos attest.



Protected Wetlands

Clean Water Violation

Somehow his enterprise offended the EPA's enforcers, apparently energized by George Bush's "no net loss of wetlands" campaign pledge. Most Americans probably figure that means protecting Cape Cod or the great blue heron. And indeed the Pozsgai parcel was not even listed on the U.S. National Wetland Inventory Map. But the EPA judged that Mr. Pozsgai's vacant lot contained a stream—dry for most of the year—that somehow crossed the expressway and ran into a glorified ditch known as the Pennsylvania Canal. The EPA also cited as evidence the presence of skunk cabbage, a common weed, and sweet gum, a common tree. By this definition of "wetlands," just about any large American rain puddle will qualify as protected.

The Feds began to harass Mr. Pozsgai to get a permit for his property improvement, though Mr. Pozsgai claims state officials told him he could go ahead without one. The doughty Feds even staked out the property with a video camera to tape trucks dumping dirt. After the Feds got a restraining order, Mr. Pozsgai obliged by putting up barricades, but a few uninformed truck drivers still dumped their unhazardous dirt—providing more evidence against the evil emigre.

The Justice Department then charged him with 40 violations of the Clean Water Act, though the act never even uses the word "wetlands." The act merely bans the polluting of "navigable waters" of the U.S. The bar against polluting "wetlands" is a bureaucrat's interpretation of this typically ambiguous congressional law. The jury that convicted Mr. Pozsgai can be forgiven if it was as confused as the prosecutors.

At the sentencing, U.S. Attorney Seth Weber invoked President Bush's campaign pledge and claimed, "A message must be sent to the private landowners, the corporations and developers of this country." Presumably that message is that property owners who offend the government's environmental zealots will end up as indicted felons. Drug dealers can plea bargain, but "landowners" go directly to jail. In a similar case in Pensacola, Fla., a man and his son have been convicted for cleaning out a drainage ditch. Mr. Pozsgai would be in the slammer already if his case hadn't been appealed by the Washington Legal Foundation, a public interest group. An appellate ruling may come as soon as Friday.

We've thought for some time that environmentalism and property rights are on a collision course. A free society should have room for both, but that's impossible so long as EPA Administrator William Reilly and his crusaders think individual rights have to be sacrificed to their view of the public good. John Pozsgai knows what that means.

Forbes

JANUARY 22, 1990

Dangerous criminal nabbed!

Who is the most notorious environmental criminal in the U.S.? Would you believe a Hungarian immigrant named John Pozsgai? Pozsgai, who owns a small truck repair shop, was convicted in late 1988 of violating the Clean Water Act. His sentence: three years in the slammer and a $202,000 fine, the stiffest penalty ever for an environmental violation. His crime? Filling in 5 acres of a 14-acre parcel he owns in Morrisville, Pa., near Trenton, without a permit.

Pozsgai, 58, came to the U.S. in the aftermath of the 1956 Hungarian uprising. In 1987 he bought the 14-acre tract so he could expand his business. The property had been used as a dump for years, so Pozsgai began cleaning it up, hauling away more than 7,000 used tires and other debris. He also began filling in the land with clean fill and topsoil.

Unfortunately, Pozsgai's property had been classified as federal wetlands because of a small stream that runs along its edge in wet weather. And he got repeated warnings from local and federal environmental authorities that he could not fill in his land without the proper permits. Pozsgai contends that a series of engineers he hired could not figure out how to file the necessary forms.

The sentence was the maximum allowed, unheard of in a case that involved no hazardous chemicals and no prior convictions, according to the Washington Legal Foundation, which has taken up Pozsgai's case. Pozsgai knowingly and repeatedly violated the law, say the feds, and now must pay the price.

The wetland outlaw's appeal is scheduled to be heard this month.

The Washington Post

WEDNESDAY, JANUARY 3, 1990

EPA Accused of Muddying Its 'Jackboots' in Pennsylvania Wetlands

By Howard Kurtz
Washington Post Staff Writer

MORRISVILLE, Pa.—With his thick, blackened hands, grease-stained flannel shirt, soiled work boots and pronounced Hungarian accent, John Pozsgai seems the very model of the hard-working immigrant as he fixes trucks at his garage in this small Delaware River town.

Yet this 57-year-old mechanic has the unhappy distinction of fighting the harshest sentence ever imposed in an environmental case—three years in prison and $202,000 in fines.

Pozsgai's problems began when he deposited clean topsoil on a ragged, weed-covered lot bordered by a four-lane state highway, a tire shop, a lumberyard and a junkyard filled with smashed cars. Although no toxic waste is involved, the government contends that the property is wetlands that must be protected under the Clean Water Act.

"I didn't even know why I was sentenced . . . . We never did anything wrong to that property except improve it," Pozsgai said recently in the small kitchen of his wood-shingled home across the river from Trenton, N.J.

Pozsgai's cause has been taken up by the Washington Legal Foundation, a conservative advocacy group that has delighted in portraying him as a gray-haired grandfather victimized by an aggressive Justice Department and by "jackboots" of the Environmental Protection Agency (EPA).

The foundation is representing Pozsgai before the 3rd U.S. Circuit Court of Appeals in Philadelphia, which is to take up case next week.

"You've got the EPA, the Army Corps of Engineers and a zealous prosecutor trying to make an example of this poor Hungarian immigrant, thinking it's an easy hit," said Paul D. Kamenar, the foundation's executive legal director. "It's overkill. It's bad policy and simply unjust."

But Assistant U.S. Attorney Seth Weber said public sympathy for Pozsgai is misplaced because he ignored "repeated warnings, notices and a court order" not to fill in the 14-acre property across the road from his house.

"The evidence was really overwhelming that his property was a wetland," Weber said. "It's not a Cape Cod kind of wetlands, but it's a wetland under the law . . . .

"He basically said, 'The law doesn't apply to me because it's my land and I can do whatever I want with it.' That's still his attitude," Weber said.

Keith Onsdorff, EPA's acting associate enforcement counsel, said there have been three other criminal convictions since 1986, when Congress changed some Clean Water Act violations from misdemeanors to felonies.

"We've made it a priority because we were dissatisfied with the level of deterrence provided by civil penalties, which could be passed on as a cost of doing business," he said.

Wetlands are valued by environmentalists as habitat for birds and other wildlife and for their role in flood control. But federal and state enforcement has been spotty until recent years, and half of U.S. wetlands once in existence have been lost.

Still, the Pozsgai property along West Bridge Street is no marshy bog where snowy egrets might lay eggs. It is an unsightly stretch of hard brown soil, bordered on one side by a narrow stream where Bucks County residents for two decades have dumped tires and debris illegally.

"I talked to many engineers," Pozsgai said. "This piece of land will never qualify as a wetland. They cannot tell you, actually, what makes it a wetland," he said, pronouncing it "vetland."

A strong-willed man who fled Hungary after the 1956 uprising, Pozsgai said he wanted the property to expand the backyard repair shop that he uses to support himself and his ailing wife, Gizella. Pozsgai works seven days a week at the garage, which he opened after his longtime employer, International Harvester, closed its Trenton plant several years ago.

Pozsgai bought the land in June 1987 and helped to haul away thousands of tires and debris. He then used topsoil, gladly provided by area contractors looking for a place to dump excess dirt, to fill in and grade part of the site.

At his trial, however, several witnesses contradicted Pozsgai's insistence that he never knew that the property was wetlands. The real estate agent who handled the sale said the price was reduced from $175,000 to $142,500 after an engineering firm hired by Pozsgai found wetlands at the site.

A Corps of Engineers inspector said he told Pozsgai to obtain a permit before filling in the land and later served him with a "cease and desist" letter. A local official said that he warned Pozsgai "seven or eight times" against putting down more topsoil but that Pozsgai told him "to get the [expletive] off the property." Neighbors said their basements had been flooded, and one allowed the EPA to set up a surveillance camera at her home.

Pozsgai disputed these accounts, saying federal officials told him that he did not need a permit. Police arrived at his house in August 1988 with a court order barring further filling of the property.

Pozsgai drove to Harrisburg in a fruitless attempt to resolve the dispute with Pennsylvania officials, saying: "I didn't know about the law, and I didn't have no lawyer." In the meantime, Pozsgai said, he was unaware that contractors were continuing to dump topsoil on his lot, which he says was blocked with barrels and tree stumps.

Days later, police handcuffed Pozsgai and took him to jail until his daughter, Victoria, posted $10,000 bail. He was represented at trial by a neighborhood lawyer who he says bungled the case. A jury convicted Pozsgai on the last day of 1988.

Prosecutor Weber said at sentencing that the case was a harbinger of President Bush's policy to prevent net loss of wetlands. "A message must be sent to the private land owners, the corporations, the developers of this country," he said.

U.S. District Judge Marvin Katz called Pozsgai a "stubborn violator" of environmental laws and said the prison term should "serve as a deterrent to others who will doubtless be tempted by economic pressures."

Victoria Pozsgai, 24, a marketing researcher who spends most of her spare time on the case, said that she approached several Washington law firms about handling her father's appeal but that they asked for $30,000 to $40,000 up front. Then she heard about the Washington Legal Foundation, which agreed to handle the appeal without charge.

"It was just a godsend," she said. "We don't have the resources to fight the government. We're a family. We're not a big corporation."

The foundation's brief says Pozsgai's sentence violates the Eighth Amendment ban on "cruel and unusual" punishment and is "grossly disproportionate" to the probation and fines usually imposed in hazardous-waste cases. The Justice Department says the penalty is well within federal sentencing guidelines.

Other parts of the appeal turn on such arcane questions as whether the small stream along the property becomes a tributary of the Pennsylvania Canal and whether that canal formerly was used in interstate commerce.

Pozsgai refuses to concede even inadvertent wrongdoing. "We thought this was a free country here—you buy a piece of land; you use it," he said.

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February 27, 1991

Dr. G. Edward Dickey
Acting Assistant Secretary of
the Army
Department of the Army
The Pentagon
Washington, D.C. 20301

Dear Dr. Dickey:

AGC urges the Department of the Army and the Environmental Protection Agency to withdraw their jointly issued Wetlands Enforcement Initiative memorandum, dated December 12, 1990, which was published in the January 22, 1991 Federal Register. This memorandum -- which is intended to improve the Federal government's commitment to Section 404 enforcement by, among other things, filing a number of civil and criminal cases under the 404 permit program -- is proposed at a time when the nation's wetlands policy is being reviewed by the Administration and Congress.

To propose an increased enforcement initiative at this time would appear to be contrary to the testimony provided by the Department of the Army and EPA at a January 30, 1991 House Small Business Committee Hearing on the impact of wetlands regulation on small business. At that hearing, the Department of the Army and EPA testified that revisions are being made to the Federal Manual for Identifying and Delineating Jurisdictional Wetlands, and that the Section 404 permit program has administrative shortcomings which are under review and revision. Under these circumstances, AGC believes it is inappropriate to begin a new enforcement initiative at this time.

This action by the Department of the Army and EPA reinforces the serious concerns that private industry and property owners have about the Section 404 permit program. This initiative is particularly ill-timed considering the fact that the Administration's wetlands program has been criticized for failing to:

- establish clear and unambiguous criteria for defining a wetland;

- establish consistent regulatory guidance and enforcement; and
- provide a reasonable period of time to adjust to new regulatory requirements.

Furthermore, this action reinforces statements made by Representative John J. LaFalce, Chairman of the House Small Business Committee, at the January 30, 1991 Small Business Hearing on wetlands, that the agencies involved in wetlands regulation have proceeded in a vacuum without consultation with private industry.

AGC respectfully requests the Department of the Army and the Environmental Protection Agency to withdraw their Wetlands Enforcement Initiative.

Sincerely,

John R. Gentille
Executive Director
Management Services

cc: Rep. John J. LaFalce

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February 27, 1991

Mr. William K. Reilly
Administrator
U.S. Environmental Protection Agency
1200 W. Tower
401 M. Street, S.W.
Washington, D.C. 20460

Dear Administrator Reilly:

AGC urges the Environmental Protection Agency and the Department of the Army to withdraw their jointly issued Wetlands Enforcement Initiative memorandum, dated December 12, 1990, which was published in the January 22, 1991 Federal Register. This memorandum -- which is intended to prove the Federal government's commitment to Section 404 enforcement by, among other things, filing a number of civil and criminal cases under the 404 permit program -- is proposed at a time when the nation's wetlands policy is being reviewed by the Administration and Congress.

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Sincerely,

John R. Gentille
Executive Director
Management Services

cc: Rep. John L. LaFalce

FOREST INDUSTRY WETLANDS TASK FORCE

FORESTED WETLANDS MANAGEMENT

Forested Wetlands Management

1. Clean Water Act - Permits for Dredged or Fill Material: Silvicultural Exemption

    Non-prohibited discharge of dredged or fill material
    (1) Except as provided in paragraph (2) of this subsection, the discharge of dredged or fill material -
    (A) from normal farming, **silvicultural**, and ranching activities such as plowing, seeding, cultivating, minor drainage, harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices;
    ...is not prohibited by or otherwise subject to regulation... [33 U.S.C. Section 1344(f)]

2. The Final Report of the National Wetlands Policy Forum: " Protecting America's Wetlands: An Action Agenda"

    "...appropriate silvicultural operations can be carried out without damaging the ecosystem. Good silvicultural management practices and the production of native wetland crop species can generate income without significant loss of wetlands functions..." [page 27, Forum report].

3. Forest Industry Wetlands Task Force policies:

    (1) Appropriate forest management practices are compatible with other wetland functions and values. Forest management can actually enhance the value of the wetland ecoysystem.

    (2) The forest products industry supports the goal of "no overall net loss" of the nation's remaining wetlands base. Forestry management offers the best opportunity to accomplish the goals of no overall net loss and of improving wetlands functions through reforestation and restoration of degraded wetlands.

    (3) Best Management Practices (BMPs) are supported by the industry as part of the nonpoint source planning process (Section 319, Clean Water Act, Nonpoint Source Planning). The silvicultural exemption language (Section 404(f), Clean Water Act), with a provision for BMPs as the primary mechanism for forest management on wetlands, should be incorporated into state water quality planning.

    (4) Where a particular wetland function is identified for protection, various landowner incentive programs such as conservation easements, tax policies and other market incentives are preferred over regulatory programs. Private landowners should not bear the entire burden for providing public benefits in private wetlands. Where preservation of

the natural processes is the dominant objective, the property should be purchased on a willing-seller-willing-buyer basis.

(5) The industry remains committed to its ongoing aggressive wetlands research program in order to ensure that active forest management remains compatible with wetlands functions.

FOREST INDUSTRY WETLANDS TASK FORCE

POLICY ISSUE BRIEFS

Compatible Forest Management

Forestry is the preferred economic use of wetlands because it can be compatible with the natural functions that wetlands provide. Forestry involves the management of the above ground vegetation while maintaining wetland soils, hydrology, wildlife, recreation, flood control, water quality and other functions. Management of wetlands vegetation creates a mosaic of age classes which can provide for wildlife species that are adapted to and benefit from different forest habitats.

The National Wetlands Policy Forum Report found that "appropriate silvicultural operations can be carried out without damaging the ecosystem. Best silvicultural management practices and the production of native wetlands crop species can generate income without significant loss of wetlands functions." The increased and coordinated use of compatible economic uses offers the potential for accomplishing lasting wetlands protection, providing for compatible multiple uses of wetlands, and encouraging wetlands restoration and creation.

Forestry activities are implemented according to Best Management Practices that are site specifically designed and implemented. Best Management Practices guidelines are developed by each state and implemented as part of its water quality protection programs required by Sections 208 and 319 of the Clean Water Act. Afforestation and forest management are also prescribed to restore degraded wetlands and protect water quality through the Conservation Reserve Program of the Farm Bill.

The forestry community sponsors research into testing and refining Best Management Practices in order to ensure that they adequately protect water quality and other beneficial uses of wetlands. A recent survey of state water quality programs indicates that virtually every state has developed forestry BMPs and that they are effective in protecting water quality.

Wetlands Definition and Delineation

The forest products industry supports the legal definition of wetlands as contained in the Corps of Engineers and EPA regulations:

> "..those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

This legal definition has recently been significantly expanded through the application of a technical Federal Manual for Identifying and Delineating Jurisdictional Wetlands, agreed to by the four Federal agencies involved in the program. The revised technical manual uses field tests and other criteria to identify sites that may have a watertable within eighteen inches of the surface for only one week (2-3%) of the growing season as being jurisdictional wetlands.

The above and other overly comprehensive criteria have resulted in an official manual that extends Federal regulatory jurisdiction over millions of additional acres with minimal wetland functions. For example, pine flatwoods in the Southeastern U.S. are dry for a significant portion of the growing season and provide no fisheries, groundwater recharge or discharge, flood control, waterfowl, or other typical wetland functions. Many such marginally wet sites do not constitute wetlands as defined as swamps, bogs, and marshes.

These and other technical comments were never considered by the Federal agencies as they revised and adopted the delineation manual. In fact, we believe that the agencies violated their own administrative procedures by adopting a substantive and mandatory manual that significantly expands upon the legal definition of wetlands. Therefore, the forest industry opposes the Federal manual and has instituted a research effort to develop substitute criteria that more accurately delineate jurisdictional wetlands.

No Overall Net Loss of Wetlands

The Forest Industry supports the goal of "no overall net loss" of the nation's wetlands resource. The goal means that national wetland losses would be offset by additions through restoration, creation, and long term conservation. The National Wetlands Policy Forum adopted "no overall net loss" as a national goal, not as a standard of performance. The Goal would be achieved through a balance of overall losses and gains and not on a permit-by-permit or state-by-state basis.

Active management of forested wetland is compatible with wetlands functions and does not cause the loss of wetlands. In fact, the Wetlands Forum Report recommended economic incentives such as tax incentives and subsidies to encourage landowners to manage and protect the wetlands resources that they own. The Wetlands Forum recognized that an effective wetlands protection and management program for private landowners is essential in order to address the majority -- 65 million acres -- of the nation's wetlands.

Actual losses of wetlands due to natural causes or the development of necessary and important highways, airports, and housing; can be offset and balanced by the afforestation and thus restoration of wetlands. Additions to the wetlands base through afforestation and forest management should be monitored and entered into a mitigation bank that can be used to offset wetland losses in order to achieve no overall net loss.

Private or public mitigation banks of restored or created wetlands can also be used as part of the compensation requirements of the Section 404 permit program. For example, restored wetlands to a forestry status should be eligible for one-to-one compensation for wetland losses associated with the expansion of mill facilities or other developments in wetlands.

Minor Surface Water Management is Necessary to Adequately Protect and Regenerate Some Forested Wetlands

The forest products industry is committed to implementing Best Management Practices that minimize the impacts to water or site productivity. Minor surface water management is often prescribed as a BMP in wetlands in order to avoid soil compaction, minimize disturbance to the site, protect the site from wildfire, and protect water quality.

Minor surface water management often entails removal of excess water through the construction of minor drainage ditches. Management of surface water is necessary because the harvesting of the mature timber temporarily halts transpiration of large quantities of water by the trees causing the watertable to rise to the surface. These minor drainage ditches are designed to temporarily remove enough water to accomplish reforestation and maintain the site as an ongoing forestry operation with minimal disruption to soils.

Once successful reforestation has been accomplished, the trees again take over the function of transpiring water as part of normal growth. At this point in the rotation, water is needed on the site for protection from natural wildfire. Wildfire can consume soil organic matter and vegetation and significantly disrupts wetland functions.

High watertables may also be desirable for maximum growth of the maturing timber during the summer months. In order to retain the maximum amount of water on site, water retention structures may be installed as part of the minor drainage system. This BMP can be maintained throughout the normal rotation of the forest.

The Best Management Practice of installing minor drainage structures and water retention risers is not intended to convert a wetland to an upland. They are in fact designed to minimize impacts to soils and site productivity, reduce the incidence and severity of wildfire, and maintain high watertables during a longer portion of the growing season.

Draft Presidential Executive Order Addressing Wetlands Protection

The National Wetlands Policy Forum Implementation Subcommittee developed Draft revisions to Executive Order 11990 "Protection of Wetlands". The Draft modifies the original Executive Order signed in 1977 in several significant ways by:

(1) expanding Federal jurisdiction to "activities that adversely affect wetlands" rather than the more narrow "dredge and fill" scope of current law under Section 404;

(2) expanding federal jurisdiction to "upland areas important to the effective functioning of nearby wetlands" rather than wetlands as currently defined; and

(3) expanding the scope of the Executive Order from Federal projects to include all Federal agency activities such as permits, licenses, technical assistance, tax provisions, and others.

These significant modifications to the original Executive Order require Federal agencies to extend their jurisdiction over private activities in wetlands beyond that which is granted under existing statutory authority. For example, the current scope and reach of the Section 404 regulatory program extends to dredge and fill activities. If no dredge or fill activity is involved, no Federal jurisdiction exists and no permit is needed. The Executive Order would require agencies to address wetland alterations and degradation including "diverting water, clearing, disruption of natural populations, or any activity that adversely affects the diversity or productivity of a wetlands."

A major concern of the Wetlands Policy Forum was certainty in the regulatory process and confusion caused by using different definitions of wetlands for regulatory purposes. The addition of "functionally dependent uplands" to the scope of Federal wetlands jurisdiction causes further confusion and uncertainty as to what private lands are subject to Federal regulatory authority. This expanded federal authority renders the wetlands definition meaningless. Jurisdictional determinations would be made based on the subjective judgments of wildlife behavior patterns and other factors, not criteria that delineate swamps, bogs, or marshes.

(5)

The forest industry also disagrees with the expansion of the Executive Order to address private activities through Federal permits, technical assistance, and tax provisions. The Executive Order should be limited to dredge and fill activities on Federal lands and projects only and should not exceed existing regulatory authority granted by Congress.

WETLANDS FACTS

- Continental U.S. wetlands today comprise about 105 million acres.
- U.S. wetlands in colonial times are estimated at 226 million acres.
- Most wetlands are found in the southern states of Louisiana, Texas, Mississippi, Alabama, Florida, Georgia, and North and South Carolina; and in the Great Lakes states of Minnesota, Michigan and Wisconsin.
- Of the U.S. total, about 50 million to 60 million wetland acres are covered by forests.
- The South alone has approximately 33 million acres of forested wetlands, or about a third of the U.S. total. Timber is the South's number one cash crop, a large percentage of which comes from forested wetlands.
- Timber production, a natural wetlands function, contributes $190 billion to the national economy and employees 1.2 million people.
- Three quarters (74%) of U.S. wetlands are owned by private landowners.
- Each state has developed Best Management Practices (BMPs) manuals for nonpoint forestry activities under the federal Clean Water Act.
- The timber industry is working with county extension agents, state forestry officials and others to educate small landowners and loggers about forestry BMPs.
- Forest practices involving a discharge of dredge or fill material in wetlands are regulated under Section 404 of the Clean Water Act, but most are specifically exempt from the individual permitting process.
- Forestry operations are not exempt, however, if they result in the immediate or gradual change from a wetland to an upland. Such conversions or "changes in use" from forestry to agriculture are required to obtain a Section 404 permit where discharges or dredge or fill material are involved.
- Wetland forestry activities must be part of an established (i.e., on-going) operation in order to be exempt. For example, changing species composition (such as hardwood to pine), removal of excess water that impedes regeneration, the plowing of seedling beds and general intensification of operations are allowed as long as they are part of an on-gong operation.
- Forestry discharges specifically exempt from Section 404 permitting include minor drainage; seedling bedding; harvesting; maintenance of roads and ditches; construction of roads, fire ponds and sedimentation basins; and removal of obstructions such as beaver dams and blockages.

WETLANDS BY STATE

STATE	TOTAL SURFACE AREA	ESTIMATES OF EXISTING WETLANDS	% OF SURFACE AREA
ALABAMA	33,029,760	3,783,800	11.5%
ARIZONA	72,901,760	600,000	0.8%
ARKANSAS	33,986,560	2,763,600	8.1%
CALIFORNIA	101,563,520	980,280	1.0%
COLORADO	66,718,080	1,000,000	1.5%
CONNECTICUT	3,205,760	172,500	5.4%
DELAWARE	1,316,480	223,000	16.9%
FLORIDA	37,478,400	11,038,300	29.5%
GEORGIA	37,680,640	5,298,200	14.1%
IDAHO	53,476,480	385,700	0.7%
ILLINOIS	36,096,000	1,254,506	3.5%
INDIANA	23,226,240	750,633	3.2%
IOWA	36,025,600	800,000	2.2%
KANSAS	52,648,960	435,400	0.8%
KENTUCKY	25,852.800	300,000	1.2%
LOUISIANA	31,054,720	8,784,200	28.3%
MAINE	21,257,600	5,199,183	24.5%
MARYLAND	6,756,480	440,000	6.5%
MASSACHUSETTS	5,284,480	588,486	11.1%
MICHIGAN	37,258,240	5,583,400	15.0%
MINNESOTA	53,803,520	8,700,000	16.2%
MISSISSIPPI	30,538,240	4,067,000	13.3%
MISSOURI	44,599,040	835,500	1.9%
MONTANA	94,168,320	840,300	0.9%
NEBRASKA	49,425,280	1,905,500	3.9%
NEVADA	70,745,600	236,352	0.3%

STATE	TOTAL SURFACE AREA	ESTIMATES OF EXISTING WETLANDS	% OF SURFACE AREA
NEW HAMPSHIRE	5,954,560	142,700	2.4%
NEW JERSEY	5,015,040	915,960	18.3%
NEW MEXICO	77,866,240	481,900	0.6%
NEW YORK	31,728,640	1,025,000	3.2%
NORTH CAROLINA	33,655,040	5,689,500	16.9%
NORTH DAKOTA	45,225,600	2,490,000	5.5%
OHIO	26,382,080	482,800	1.8%
OKLAHOMA	44,748,160	1,049,700	2.3%
OREGON	62,067,840	1,393,900	2.2%
PENNSYLVANIA	29,013,120	499,014	1.7%
RHODE ISLAND	776,960	65,154	8.4%
SOUTH CAROLINA	19,875,200	4,659,000	23.4%
SOUTH DAKOTA	49,310,080	1,780,000	3.6%
TENNESSEE	27,036,160	787,000	2.9%
TEXAS	171,096,960	7,612,412	4.4%
UTAH	54,346,240	558,000	1.0%
VERMONT	6,149,760	220,000	3.6%
VIRGINIA	26,122,880	1,074,613	4.1%
WASHINGTON	43,642,880	938,000	2.1%
WEST VIRGINIA	15,475,840	102,000	0.7%
WISCONSIN	35,938,560	5,331,392	14.8%
WYOMING	62,664,960	1,250,000	2.0%
SUBTOTAL CONTINENTAL US	**1,934,191,360**	**105,513,885**	**5.0%**
ALASKA	375,303,680	170,000,000	45.3%
HAWAII	4,128,000	100,000	2.4%

SOURCE: U.S. FISH AND WILDLIFE SERVICE, 1990 NATIONAL WETLANDS INVENTORY.

Forested Wetlands: Protection Through Management

National Wetlands Policy Forum reaches consensus on forestry's role

By Scott Berg and David Mumper

Wetlands management and protection has evolved into a major national and state policy issue. The potential exists for significant changes in legislation and regulation of a variety of activities on the nation's approximately 100 million acres of wetlands. Foresters will need to communicate that management of forested wetlands offers real opportunity to restore and protect wetland values and functions.

The recently released report by the National Wetlands Policy Forum makes more than 100 recommendations for improving management and protection of the nation's wetlands resource. From a forestry standpoint, the forum's importance lies in its consensus recommendations, which should favorably influence how forest management of wetlands is addressed in future policy and legislative debates. Specifically, the forum endorses compatible economic uses such as forestry that earn income for the landowner while maintaining the wetlands resource.

The Environmental Protection Agency (EPA) awarded a grant to The Conservation Foundation to convene the forum. The 20 participants included state governors, representatives of industry and environmental organizations, heads of state and federal agencies, and academic experts. Jack Larsen, vice-president of environmental affairs, Weyerhaeuser Company, represented the forestry community.

The forum's single most significant recommendation is the national goal of "no overall net loss of the nation's remaining wetlands base" in the short term and an "increase [in] quantity and quality of the nation's wetlands" in the long term. The forum goal does not imply that individual wetlands should be untouched, but that the nation should strive to reach equilibrium between losses and gains in the short run and increase the total resource over time. The report recommends that the public sector share with landowners the costs of restoring and creating wetlands on private lands in order to achieve this goal.

With the consensus of the *National Wetlands Policy Forum Report*, the forestry community has an excellent mandate to guide policy discussions at the state level. As a result of the report, the participating state governors, national environmental organizations, and federal regulatory agencies have publicly endorsed the following positions:

—good forest management is largely compatible with other natural functions and is one of the preferred economic uses of wetlands;

—forest management can be beneficial to some and detrimental to other wildlife species;

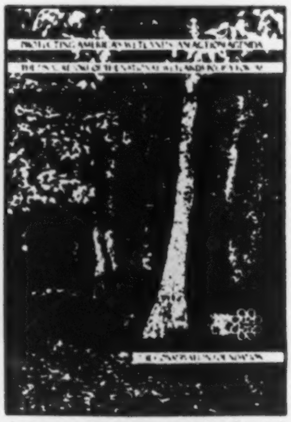
—incentives for compatible forest management can provide long-term protection of wetlands;

—research should continue into best management practices for forestry under state nonpoint-source programs;

—the exemption from Section 404 of the Clean Water Act permitting normal forestry operations should be retained.

The forum report discusses in some detail which economic uses are compatible with maintaining the wetland ecosystem. It states that "good silvicultural management and the production of native wetland crop species can generate income without significant loss of wetland functions." Forest managers are encouraged to pursue ecologically sound silvicultural practices in forested wetlands. The report urges the forestry community to conduct research on and refine silvicultural management practices to increase income and protect the wetlands ecosystem.

Discussions between representatives from forestry and national environmental groups revealed that the two groups, more often than not, share a common position on forested wetlands management. Both recognize that forest management is largely compatible with other wetland functions and that



A consensus report on managing forested wetlands.

forestry is environmentally preferable to other economic uses of wetlands. Many in the environmental community are beginning to recognize that maintaining a viable forest industry also retains forested wetlands because a stable forest economy helps avoid converting forested wetlands to competing land uses with potentially greater environmental impacts.

The report also reviews the natural functions that wetlands provide, including the preservation of water quality and supply, habitat for waterfowl and wildlife, recreation, and timber production; and recognizes that alteration of this array of uses may enhance some natural functions and impair others. "Harvesting trees from a forested wetland may reduce the value of the wetlands as habitat for some types of wildlife and increase it for other types, while having little effect on its flood control value. The use of appropriate forest management practices can result in relatively little reduction in natural functions," the report notes.

In order to accomplish lasting wetlands protection through compatible multiple uses, the forum report strongly endorses a coordinated program of tax incentives, conservation easements, and technical and financial assistance. Many in the forestry community believe that appropriate tax policies and an attractive investment climate for forestry would increase afforestation, restore many acres of degraded wetlands, and help achieve the national wetlands protection goal.

The forum report addresses ways to improve regulatory programs in addition to incentives and education programs. The forum recommends that agencies adopt a single wetlands definition and delineation methodology for determining regulatory jurisdiction. While the U.S. Army Corps of Engineers and EPA currently share the same definition of wetlands, they employ different delineation methodologies and interpretations of Commerce Clause jurisdiction. In addition, other federal and state agencies use more encompassing wetland definitions for inventory and farm program purposes.

Forum participants were unable to reach consensus on the issue of sole federal agency jurisdiction over wetlands. They did agree, however, that more states should assume regulatory responsibility for implementing the Section 404 dredge and fill regulations to better address local wetlands concerns. Last June EPA issued final state assumption regulations that were intended to facilitate transfer of the Section 404 program. Few states are expected to volunteer to take over the program due to the absence of federal funding and continued EPA oversight of the state-run programs.

Many of the forum members expressed concern about activities in wetlands that are currently not regulated under the Corps of Engineers dredge and fill program. Some of these unregulated activities result in the removal of soil, destruction of plant life, and placement of obstructions in wetlands. The forum report recognizes, however, that not all unregulated operations result in "significant or lasting alterations of wetlands" and explicitly states that it does not intend for this or any other recommendation to modify the existing exemptions from permitting requirements extended to normal forestry operations under Section 404(f) of the Clean Water Act.

The forum recommends that nonpoint sources of pollution, such as forest management, be addressed by the states as they implement the requirements of Sections 208 and 319 of the Clean Water Act. Many in the forestry community are currently working with EPA and the states to further refine best management practices (BMPs) for upland and wetland forestry. For example, the forest industry has created a National Wetlands Research Task Group (under the direction of the National Council of the Paper Industry for Air and Stream Improvement) to coordinate wetland BMP research and serve as an information clearinghouse for the forestry community.

In addition to state initiatives such as nonpoint-source management and assumption of the Section 404 regulatory program, the states are being asked in the forum report to pass their own wetlands protection legislation. Consequently, much of the future discussion and resolution of wetlands protection and management will occur at the state and local levels. Therefore, state forestry associations, state foresters, SAF state societies, and the USDA Forest Service must educate and inform state legislatures, state agencies, and the public about the importance of forested wetlands management.

Forest managers will need to work closely with regulatory agency officials to ensure that the exemption for normal forestry operations is not inappropriately used to convert a forested wetland to a nonforest land use, which might result in the loss or weakening of this exemption for legitimate forestry operations. These same regulatory agency officials also need to better understand long-term forest management and how to apply the regulatory exemptions consistently.

Using forested wetlands management, foresters can contribute to long-term wetlands protection while providing income from the production of clean water, fiber, wildlife, and recreation. The forestry profession has an opportunity to proudly tell its forested wetlands conservation story. As professional foresters, let's not miss this opportunity!

Scott Berg is vice-president for forestry policy and research with the American Forest Council, Washington, DC. David Mumper is resource manager with Weyerhaeuser Company, Tacoma, WA.

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ISSUE BRIEF - FORESTED WETLANDS MANAGEMENT

The forest products industry probably represents the largest single category of forested wetland owners. It is estimated that there are approximately 50-60 million acres of forested wetlands in the United States currently under management by forest products companies and private landowners. These wetlands are managed for fiber production, wildlife habitat for hunting, and a variety of non-commodity values. Many of these forested wetland acres are the direct source of raw material for solid wood and pulp and paper facilities.

In 1987, the Environmental Protection Agency (EPA) commissioned the National Wetlands Policy Forum to develop consensus national wetland policies. The forest industry was one of twenty representatives that developed over 100 policy recommendations. The final forum report was released in November, 1988, and recommended a national goal in the short term of "no overall net loss of the nation's remaining wetlands base" and a long term goal of increasing the wetlands base.

The consensus forum report recognized that some activities in wetlands have little effect on wetland functions and are largely compatible with wetlands protection. Forestry was specifically mentioned as a compatible economic use in wetlands, and it was emphasized that none of the recommendations of the report was intended to modify the existing regulatory exemptions afforded to forestry contained in Section 404 of the Clean Water Act. This position was reiterated in the forum's concept paper entitled "Recommendations for Federal Wetlands Legislation" released in October, 1989.

The forest products industry has formed a Wetlands Task Force that brings together representatives from all of the industry associations and committees with responsibility for aspects of the wetlands issue. The following wetlands policies have been adopted by the Forest Industry Wetlands Task Force:

1. Appropriate forest management practices are compatible with other wetland functions and values. Forest management can actually enhance the value of the wetland ecosystem.

2. The forest products industry supports the goal of "no overall net loss" of the nation's remaining wetlands base. Forestry management offers the best opportunity to accomplish the goals of no overall net loss and of improving wetlands functions through reforestation and restoration of degraded wetlands.

3. Best Management Practices (BMPs) are supported by the industry as part of the nonpoint source planning process (Section 319, Clean Water Act, Nonpoint Source Planning). The silvicultural exemption language (Section 404(f), Clean Water Act), with a provision for BMPs as the primary mechanism for forest management on wetlands, should be incorporated into state water quality planning.

4. Where a particular wetland function is identified for protection, various landowner incentive programs such as conservation easements, tax policies and other market incentives are preferred over regulatory programs. Private landowners should not bear the entire burden for providing public benefits in private wetlands. Where preservation of the natural processes is the dominant objective, the property should be purchased on a willing-seller-willing-buyer basis.

5. The industry remains committed to its ongoing aggressive wetlands research program in order to ensure that active forest management remains compatible with wetlands functions.

COMMENTS OF THE FOREST PRODUCTS INDUSTRY
ON THE
FEDERAL MANUAL FOR IDENTIFYING AND DELINEATING
JURISDICTIONAL WETLANDS

[These comments expand upon the testimony presented at the July 27, 1990 Baltimore hearing by Mitch Dubensky, Manager, Timberlands and Water Quality, on behalf of the national organizations that represent various aspects of the forest products industry: the American Paper Institute, National Forest Products Association, American Forest Council and the National Council of the Paper Industry for Air and Stream Improvement.]

The American Paper Institute/National Forest Products Association are national trade associations of the pulp and paper and forest products industries. API's 175 member companies operate some 700 pulp and paper mills as well as many solid wood manufacturing facilities. NFPA represents interests of manufacturers of forest products as well as owners of forest lands. The NFPA membership includes over 150 companies, 35 associations and more than 600 companies which make up the specialty product associations that are also members of NFPA. The National Council for Air and Stream Improvement is the element of the forest products industry charged with directing the industry's extensive environmental research program, including that in the wetlands area. The industry remains committed to an ongoing aggressive wetlands research program in order to ensure that active forest management is compatible with wetlands functions.

The hearings conducted in the past week on the delineation manual have addressed several basic underlying issues. First, the consensus of the testimony seemed to support the attempt by the Environmental Protection Agency, Corps of Engineers, Soil Conservation Service and the Fish and Wildlife Service to adopt consistent and uniform criteria for delineating a wetland. However, the consensus dissipated at that point. The testimony pointed to several serious problems with the current effort.

A broad group of affected parties unanimously agreed that, in attempting to publish a manual, the Agencies violated administrative regulatory procedures by significantly expanding the definition of wetlands without opportunity for public comment.

Second, federal officials recite the definition of wetlands contained in the 1986 Federal Register Notice (Section 232.2) as the foundation for determining what qualifies as a wetland. Whether unintentionally -- or conveniently -- omitted, the last sentence of the definition is frequently not included. It, of course, states that "wetlands generally include marshes, bogs, swamps and other similar areas". An approach which focused on, and adhered to, this concept would be more true to what was intended and would avoid the controversy that the unjustifiably expansive version has engendered.

Third, the Federal Agencies contend the Manual is a clarification and interpretation of the existing wetlands definitions and does not expand the delineation of wetlands or its jurisdiction under Section 404 of the Clean Water Act or the "Swampbuster" provisions of the Farm Bill. We strongly disagree. Testimony presented by Anderson Tully Company gave a specific "real world" example of how the Manual has expanded the definition. Prior to publication of the Manual, approximately 20 percent of Anderson Tully's bottomland hardwood ownership was considered jurisdictional wetlands. However, after the manual was published, 75 percent of the company's bottomland hardwood acreage is considered a jurisdictional wetland. This is far from a simple clarification.

Fourth, the regulatory language cited by the Agencies, to support their position that the definition of wetlands has not been expanded, will not bear that reading. Currently, the manual states that wetland hydrology is present when the water table is within a certain number of inches of the surface for as little as one week during the growing season. This criterion exceeds the clear intent and plain language of EPA's own regulations contained in the 404(b) (1) guidelines. In Section 230.41(a)(3) of those regulations, wetlands are described as containing "plants, including certain trees, that gain a competitive advantage over others because they can tolerate **prolonged wet soil conditions** and their competitors cannot." This language clearly indicates that EPA, when it issued the Final Rules and Regulations on the (b) (1) Guidelines, envisioned significant or extended inundation during a large part of the growing season, not subsoil moisture for one week. For example, during a typical seven to eight month growing season in the South, one week represents only three to four percent of the growing season, and can thus hardly be said to constitute **"prolonged wet soil conditions"**. Although in a few rare situations, one week may be sufficient to create anaerobic soil conditions, it is not sufficient to allow certain plants to gain competitive advantages over others. In that regard, Dr. Pettry, a professor and soil scientist at Mississippi State University, seriously questioned the one week criterion and suggested that thirty days is a more technically sound indicator. This recommendation was also made by several groups testifying in Sacramento and

Minneapolis/St.Paul. We contend that if the Federal Agencies had properly complied with the Administrative Procedure Act, we and Dr. Pettry would have been permitted to offer such comments and suggestions during the Manual's formative stages, the resulting manual would have been much improved, and we probably would not need to be here today.

Fifth, a recurrent theme among significantly affected parties at the previous hearings was the strong opposition to the use of facultative species as an indicator of wetlands. Species that are as likely to occur in uplands as in wetlands are not good indicators of wetlands. Yet, the field manual provides so much discretion to the delineator that he can rely on the presence of only one criterion to call an area a jurisdictional wetland. Given this discretion, timberlands could be considered wetlands if loblolly pine or sweet gum, both facultative species, were found at the site. We believe this determination goes far beyond the intent of Section 404 of the Clean Water Act.

Sixth, the Agencies appear to have accomplished a goal: identifying lands that are "wet for any portion of the year." But their goal should have been to identify "wetlands." The broad wetlands criteria, in combination with the expanded interpretation and discretion of the delineator, will result in lands being classified as wetlands that have no resemblance to the attributes the public associates with wetlands -- fish and wildlife habitat, floodwater retention, water purification and erosion control. These are the values that are intended to be protected, and the Manual should be written with that in mind.

In conclusion, I would like to thank you for the opportunity to present comments on the Federal Manual. You have received substantial comments during the past week on the delineation manual and we trust you will give serious consideration to them.

Weyerhaeuser

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Comments of Weyerhaeuser Company to the Domestic Policy Council's Public Meeting on Wetlands, Olympia, Washington, September 5, 1990.

I am David Mumper, a forester for Weyerhaeuser. In this position I have participated in the development and administration of company wetland management policies throughout the United States. Some of Weyerhaeuser's most productive forests grow in wetlands, primarily in the Southeast. I also served as a staff representative on the National Wetlands Forum and more recently as a member of the Washington State Wetlands Forum. All of this experience has not made me a wetlands expert, but it has helped create a strong personal conviction of what we all must do in a process sense to successfully protect and manage our wetland resources.

Today, I will briefly review my understanding of what the National Wetlands Forum intended when it developed and adopted the concept of a national goal of no overall net loss of wetlands. I will conclude my comments with a few recommendations for the Domestic Policy Council that will help reach the no overall net loss goal. The common thread through my remarks will be the need to develop a cooperative, flexible wetlands philosophy that considers, but is not driven by often conflicting scientific and legal findings.

INTERPRETING THE GOAL OF "NO OVERALL NET LOSS"

The concept of "no overall net loss" of wetlands was a very contentious and difficult issue for the Forum to define and adopt. After nearly two years of intense, but constructive discussion, the Forum developed this proposed national goal along with a comprehensive set of supporting recommendations intended to guide the implementation of this goal. This goal and other Forum recommendations have been a very difficult set of concepts for the public, agency administrators, and wetland owners and managers to comprehend and embrace.

The goal of no overall net loss is achievable if we pursue implementation through the same cooperative win-win approach fostered by the Forum. This clearly means that "business as usual" in wetlands will not be possible. Owners of 70 percent of this nation's wetlands must be willing to modify their practices to protect or preserve certain wetland ecosystems. Simultaneously, those interests that have traditionally lobbied for the preservation of all wetlands must embrace and promote economic wetland uses compatible with the maintenance of altered ecosystems in some wetlands. And the public must be willing to bear the not insignificant costs to provide needed incentives and educational initiatives.

The Forum set the stage for this type of cooperative, flexible approach to wetlands management and protection. Specifically, the Forum recommended:

- a goal of "no overall net loss of the nation's remaining wetland base. ...[T]he goal does not imply that individual wetlands will in every instance be untouchable or that the no-net-loss standard should be applied on an individual permit basis--only that the nation's overall wetlands base reach equilibrium between losses and gains in the short run and increase in the long term. The public must share with the private sector the costs of restoring and creating wetlands to achieve this goal."
- shifting "delegation of all Section 404 permitting responsibilities... to qualified states...."
- "federal and state agencies along with private and nonprofit groups aggressively expand their education and outreach programs to inform the public and landowners...."
- "the Office of Technology Assessment review the entire array of wetlands protection and management incentives and suggest modifications to those offered by the federal government to improve their effectiveness...."

These and other recommendations clearly called for a cooperative partnership of all wetland managers, owners, administrators and other advocates. The Forum in its nearly two years of deliberations was successful in creating a true wetlands partnership. In doing so we developed supporting language contained in the Forum report that describes the consensus intent of the entire Forum. In the case of forestry, the

Forum concluded, "[g]ood silvicultural management practices and the production of native wetland crop species can generate income without significant loss of wetland functions. Private landowners, including timber companies, should be encouraged to pursue ecologically sound silvicultural practices in privately owned wetlands." In this single example, the Forum recognized the value of endorsing management practices with the potential for some immediate loss or modification of some wetland functions in exchange for the benefits provided by maintaining these wetlands in forests.

The ability of the entire Forum to agree to the no overall net loss goal was based on an understanding of the full set of Forum recommendations. The no overall net loss goal is not a stand-alone concept. The Forum essentially completed the other aspects of the report before final agreement on the no overall net loss concept was agreed to. Those that choose to use the Forum report as a shopping list of ideas run the certain risk of violating the delicate set of agreements this report represents.

Although the no overall net loss goal is a national goal, the Forum recognized the benefits of shifting the administration and management of wetlands to individual states. It is the states that can best create the same type of wetland partnership developed by the national Forum. Washington State was one of several states that has taken on this task. In September 1989 Governor Gardner, a member of the National Forum, named a state wetland forum. Our four-month life was inadequate to accomplish the full set of objectives, including a consensus wetlands legislative bill. But it was clear to me, given a more reasonable time frame, we could have developed a flexible, consensus set of recommendations for the management of wetlands in Washington State consistent with the recommendations of the National Forum. Other states, primarily in the Southeast, are working toward similar ends.

Interpreting the meaning of no overall net loss has been made much more difficult as a result of separate efforts to both define wetlands and wetland loss. The recent "Federal Manual for Identifying and Delineating Jurisdictional Wetlands" will bring hundreds of thousands of acres of land under federal jurisdiction. This broadening of the wetland definition begs for a whole new look at management restrictions in wetlands; restrictions that were appropriate under the old definition are overly restrictive today.

Wetland loss is another issue that has fast become a media and political football. One recent report out of a southern university names forestry as the primary cause of wetlands loss in North Carolina. One must read this report carefully to understand that the "researcher" seems to suggest that any alteration of a wetland constitutes a loss. This is clearly not what was considered a loss by the Forum. This one example suggests the need for a clearer definition of wetland loss.

RECOMMENDATIONS

The Domestic Policy Council is in a unique position to serve as the catalyst to insure that the full set of recommendations of the National Wetlands Policy Forum is implemented. The Domestic Policy Council should,

- o challenge the EPA and COE to insure their interpretations of the Clean Water Act and especially Section 404 are consistent with the recommendations of the Forum;
- o provide an objective interpretation of the no overall net loss goal that is consistent with the Forum recommendations;
- o insure that proposed 1992 amendments to the Clean Water Act are objectively considered against the findings and recommendations of the Forum;
- o work directly with selected key states to insure the establishment of diverse and balanced wetlands policy forums that will work toward implementation of the full set of Forum recommendations.
- o provide the national vision to move the current wetland debate beyond the increasingly litigous and political confrontation over regulation toward the adoption of a comprehensive nationwide wetland strategy.

In closing, the Forum report in total represents the most comprehensive treatment of the wetlands policy to date. Implementing the findings and recommendations of the Forum will be difficult, but I doubt there is an easier or more effective route to insure proper management and protection of this vital resource.

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Statement of the
ANDERSON-TULLY COMPANY

for the

INDUSTRY, AGRICULTURAL,
COMMERCIAL PANEL

presented to

The Domestic Policy Council's
Wetland Task Force
on

The President's National Goal of
"No Overall Net Loss of Wetlands"

August 27, 1990

Presented by Tony R. Parks
Anderson-Tully Company

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I am Tony R. Parks, Vice President and Land Manager for Anderson-Tully Company of Memphis, Tennessee. Anderson-Tully Company is a hardwood lumber company and is considered to be one of the largest private owners of bottomland hardwood forests and their associated wetlands in the South-central United States. As a corporation, we recognized the value of these bottomland forests for timber production with the purchase of our first bottomland tract in 1898. Since that time, we have purchased lands in the seven states bordering the Mississippi River from southern Illinois to just north of Baton Rogue, Louisiana.

These lands are managed for the production of quality hardwood sawtimber and its related wildlife habitat. With the experience gained from over ninety years of stewardship and management of these bottomland forests, we have witnessed the economic and environmental values provided by properly maintained bottomland systems.

During the past fifteen years, much has been said about wetlands: their productivity as wildlife habitats; their erosion; flood control; water pollution; and their ground water recharge functions. However, the value obtained from the production of forest products from these sites has allowed these forested wetlands to be maintained in their natural state, benefiting our society and our economy. Anderson-Tully Company has developed a method of maximizing the productivity of these bottomlands without sacrificing or reducing their environmental values. Even before "no overall net loss" was adopted as a national goal, we have practiced this concept for decades through our management plan. It is from this vantage that I address the Domestic Policy Council's Wetland Task Force.

First, the "no overall net loss" goal should be recognized as a national goal. This would allow for wetland losses to be offset by additions through restoration, creation and long term conservation. The Federal role should be one of coordinating wetland programs to help achieve this goal and of setting standards of the measurement of progress based on the most complete scientific data available.

The Federal government should encourage landowners to manage their wetlands in a manner compatible with their wetland functions. Since the majority of the 65 million acres of wetlands are owned by private landowners, this could be accomplished through education, economic incentives and other non-regulatory programs. Forest management has proven to be one of the preferred economic uses of wetlands. It provides the Nation with functioning wetlands, a tax base and more importantly, a renewable resource as a vital part of our national economy. One has to look no further than the Lower Mississippi River Valley to see the vast majority of remaining forested wetlands have been or are presently owned by the forest products industry, or by landowners who have depended upon these forests for economic opportunities.

In order to reduce the dependency upon the Federal government, the states should take the primary role in implementing specific programs to manage wetlands for compatible uses, such as forestry. A state program would allow for consistency and would avoid the duplication of effort so often found in local programs.

Second, to forest landowners, both industrial and non-industrial, the best mechanism for achieving the "no overall net loss" goal would be a non-regulatory approach. Owners of forested wetlands are interested in maintaining the natural functions of these systems. Properly managed wetlands make good economic and environmental sense.

In the forest management community, our commitment to maintaining functioning wetlands has been best expressed through the development and implementation of Best Management Practices (BMP's). On some of our own lands, we have harvested sawtimber from the same stand as frequently as three times since 1975. As a result of the BMP's implemented during this period, these sites still provide their full range of wetland functions.

Within the hardwood industry there is a very strong economic incentive for implementing BMP's. This incentive comes from the consumer as we are asked, "Are your forest products produced from managed forests," and "What effect do your practices have on the environment?" An affirmative response has resulted in our ability to provide forest products to an ever-increasing, environmentally-aware marketplace.

Many states have already developed BMP programs for forest management practices. State and private efforts are underway to ensure BMP's are effectively implemented. With the effective implementation of BMP's, forest management of wetlands is compatible with the other wetland functions.

In order to ensure the compatibility and effectiveness of BMP's, the forest industry, through the National Council for Air and Stream Improvement (NCASI), is voluntarily funding a five-year research program costing $2,000,000.00. This program will coordinate wetlands research with the nation's universities and other research institutions.

Third, the maintenance and restoration of wetlands from a forest management perspective can best be accomplished through non-regulatory approaches and incentives. Our company and industry have spent millions of dollars in developing plans and practices resulting in the maintenance of our wetland habitats. We support a stable tax policy that encourages long-term investment in restoration of wetlands through afforestation, in reforestation after timber harvest, and in compatible forest management of wetlands. Restoration of a capital gains tax differential and correcting the current inequity in the passive loss regulations are essential for encouraging private landowners to restore and maintain wetlands in forest cover.

In the bottomlands of Northwest Mississippi, we have seen a renewed interest in converting marginal cropland to restored wetland habitat. The House and Senate versions of the Forestry Title to the 1990 Farm Bill contain proposals to expand the Conservation Reserves Program (CRP) to include the restoration of wetlands through the planting of trees. The recommendation of The Domestic Policy Council to support this program could greatly benefit the restoration of wetlands throughout the Nation and especially in the Mississippi River Valley.

Conservation Easements on private lands from willing sellers are another method to retain the function of wetlands, while allowing for the economic return supplied by compatible uses accruing to the landowner. Since 1988, thousands of acres in the bottomlands associated with the lower Mississippi River are being protected from inappropriate development while retaining private ownership. With improvements in tax incentives for lands protected by conservation easements, I am convinced more of the owners of the 65 million acres of privately owned wetlands would seek this as a means of maintaining their wetlands in their natural state, while ensuring the economic potential remains with the land.

Fourth, implementation of the Federal Manual for Identifying and Delineating Jurisdictional Wetlands has the potential of having significant economic consequences on the management of our bottomland forests. Without acquiring one single acre of forested bottomland since January of 1989, Anderson-Tully Company's jurisdictional wetland acreage has increased by 200% as a result of this manual. We presently enjoy an exemption for silvicultural activities in wetlands. However, if a permit is to be required to conduct management activities in wetlands, we would have less economic incentive for managing these forests in a manner consistent with their wetland functions. An example of this would be less planning for reforestation following harvesting operations, thereby reducing the economic compatibility of wetland ownership in the future. The forestry community believes that: 1) the manual is technically flawed; 2) the procedures for identifying the three required wetlands criteria are overly complicated; 3) the manual includes relatively dry bottomland sites as jurisdictional wetlands; 4) the Federal agencies adopted this substantive expansion of the rule behind closed doors without following proper administrative procedures as required by law.

Our industry strongly supports legitimate wetlands protection. However, as a result of this manual we are spending a great deal of effort in determining if these jurisdictional wetlands actually function in a manner consistent with the intent of Congress as they enacted wetlands regulatory guidance.

The Domestic Policy Council should direct the four Federal agencies involved to immediately proceed with a formal rule-making on the wetland delineation manual. In addition, scientific expertise from the private sector, universities and other non-governmental institutions should be added to the technical committees that review the hydric soils lists, wetland species lists and hydrology criteria. Those technical committees should be further instructed to ensure that field indicators in the manual more accurately reflect the regulatory definition of wetlands as "swamps, bogs, marshes and similar areas."

Fifth, wetlands should be indexed according to their functions and values in applying the "no overall net loss" goal. This ranking should be based on the relative values of the functions performed by the specific wetland site and should include the fifteen wetlands functions found on page 10 of The Conservation Foundation's Protecting America's Wetlands: An Action Agenda. The presence or absence of these functions in a jurisdictional wetland could be used as criteria for determining their relative value to society. Indexing is important, as the new delineation procedure includes many "marginally" wet sites exhibiting few true wetland characteristics. Certainly these "dry wetland" sites should not be confused as having the same relative wetland values as swamps, bogs, marshes and similar areas as described in the current regulatory wetlands definition. The present wetlands delineation method is inadequate to account for the differences in wetland functions and values between the extremes found within the range of jurisdictional wetlands.

Sixth, research is necessary in working toward the "no overall net loss" goal. In terms of the aforementioned indexing, research should be devoted to determining the procedures necessary to measure the functions of wetlands. Once these functions are measured, they can be classified in order to ascertain the response of our wetland base to our goal of "no overall net loss."

Additional research is needed to identify practices proving the compatibility of economic uses with the wetland functions. The forest industry has recently begun a substantial research effort to refine Best Management Practices for forestry operations in wetlands. This research needs to be a coordinated effort by the Federal, university and private sectors. The ability of the wetland landowner to receive economic benefits from this land is extremely important if our Nation is to be able to afford our goal of "no overall net loss."

In conclusion, if the Nation's goal of "no overall net loss" is to be realized in a manner that is affordable, a new partnership is needed between government, private landowners and the environmental community. Our wetlands are vital to the economical and environmental well being of our Nation. As our national wetland strategy has been developing, the role of conflict between those interested in our wetland resources has required too much of our energy and effort. Only through mutual respect of private landowner interests and the use of free market incentives and education approaches can society be successful in achieving the goal of better managing and protecting wetlands.

The essential mutual effort involving those interested in the economical and environmental values associated with wetlands was recently proven with the publication of the National Wetlands Policy Forum Report. Particularly, in Chapter III, "Promoting Private Stewardship", the report recognized that wetlands can be managed for compatible uses, such as forestry, while still retaining the functions of the wetlands. Governmental policies need to recognize that the Nation's forested wetlands must be managed in order to provide the income necessary to retain the wetland in forest cover while continuing to provide the many other functions of wetlands. For this to occur, it is vital to the forest products industry that the silvicultural exemption under Section 404 be retained so as to avoid unnecessary costs and burdens associated with the regulation of our wetlands.

Finally, I would like to say the forest products industry needs help in providing the additional research necessary on refining BMP's in order to protect our wetlands and their functions for future generations.

It is only through compatible uses of our wetland resources in providing a source of income for the landowner while protecting the interests of society that our goal of "no overall net loss" can be achieved. Without this cooperative effort, the cost associated with wetland protection will fall squarely on the backs of the taxpayers, proving to be a burden our Nation cannot afford.

COMMENTS OF
THE NATIONAL WETLANDS COALITION

ON THE

FEDERAL MANUAL FOR IDENTIFYING AND DELINEATING JURISDICTIONAL WETLANDS

August 3, 1990

COMMENTS OF
THE NATIONAL WETLANDS COALITION

These comments are submitted on behalf of The National Wetlands Coalition[1] in response to the notice published by the United States Army Corps of Engineers (Corps) requesting comments on the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (Delineation Manual or Manual) which was issued in January 1989. Since its issuance, the Delineation Manual has been the subject of considerable discussion and some controversy, stemming largely from the broadly held perception that the application of the Manual has effectively resulted in an increase in the amount of acreage that falls within the definition of "wetlands," as that term is used in the myriad federal programs involving wetlands regulation, use and management. We applaud the efforts of the participating federal agencies, through the solicitation of comments and public hearings, to identify the issues that have arisen in recent experience under the Manual.

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[1] The National Wetlands Coalition was formed in September 1989. Our membership includes a geographically and economically diverse group of companies and governmental entities, all of whom share common interests in current and future policies affecting wetlands management. We formed the Coalition in the hope of making a constructive contribution to the efforts of the Administration and the Congress to develop a comprehensive plan for intelligent, practical and environmentally sensitive management of the Nation's wetlands.

The diversity of the Coalition's membership underscores the importance of the wetlands issue to the Nation. Our public sector members include municipalities, local water and power authorities and ports. We have members from the Alaska Native community and other major landowners, as well as non-profit members including the Louisiana Nature and Science Center and The Audubon Institute. Also represented in our membership are the following industry sectors -- oil and gas, gas transmission, retail and residential development, mining, electric utilities, banking and engineering.

We hope that the comments of the Coalition are useful to the Corps and other federal agencies in evaluating the effect and application of the Manual on the administration of federal programs. We are also hopeful that, on the basis of the public comments and testimony received, the Corps will initiate an effort to establish policies clarifying the application of the Manual that effectively serve the objectives of balanced regulatory and nonregulatory programs.

PURPOSE OF THE DELINEATION MANUAL

The Delineation Manual is the product of a multi-year effort that was intended to accomplish an important purpose -- the reconciliation of the enormous variation in standards used by different federal agencies in delineating wetlands and the adoption of uniform standards to create predictability and clarity in the wetlands delineation process. Four different agencies, including the Corps, the Enviromental Protection Agency, the Soil Conservation Service and the United States Fish and Wildlife Service, have substantial responsibilities that directly involve the regulation or management of wetlands. Many other federal agencies and departments, including the Departments of Energy, Transportation, Housing and Urban Development, and Commerce, administer programs that support or regulate activities that occur in or near wetlands areas. In addition, many state and local agencies, under a wide array of statutes and regulations, are involved in use, management and regulation of wetlands. These state and local agencies frequently rely upon the expertise of federal agencies to set standards on complicated regulatory issues such as this.

Given this proliferation of laws and regulations affecting wetlands use and conservation, there clearly exists a compelling need to provide uniform guidance to federal agencies as to what constitutes "wetlands". This task is as difficult as it is important, and the Coalition strongly endorses the goal of the participating agencies to establish a uniform definition. Clearly, consistency and reliability of technical criteria and formulae is essential to the successful administration of federal wetlands programs. The need for consistency and clarity is imperative in the case of the regulatory programs, which depend on the delineation of wetlands for purposes of determining jurisdiction.

It must be recognized, however, that agreement on technical criteria does not, of itself, produce a consistent, clear and effective means for determining the appropriate scope of regulatory jurisdiction. Notwithstanding the level of detail and specificity in the Manual, there remains, of necessity, considerable opportunity for the exercise of judgment by agency personnel in applying technical criteria to specific "real world" situations. All lands are not textbook cases, and the Delineation Manual's technical formulae, at best, describe a set of minimum conditions that must be present for land to fall plausibly within the scientific definition.[2/] Agreement on scientific criteria does little to limit the opportunity for variation in application of the technical aspects of the definition from case to case. Moreover, the consequence of wetlands delineation -- the regulation in the public interest of the economic use of predominately private land -- is quite significant. Therefore, the policy direction that is reflected in and underlies the program is also critical in determining the appropriate application of criteria that determine the program's jurisdiction and scope.

For that reason, we strongly encourage you to examine not only the technical aspects of the Delineation Manual but also the practical consequences that occur when the Manual is applied by field personnel in certain circumstances. We believe that such an examination will suggest the need for specific policy guidance that places the application of the jurisdictional determination

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[2/] It should be noted that the Delineation Manual and its definitions are the end product of a deliberative process involving several scientists from each of the four federal agencies. As such, the Manual itself is a consensus scientific document which reflects compromises and other resolutions of various scientific viewpoints.

process more properly within the context of the regulatory program that the definition is intended to serve.

THE DEFINITION OF "WETLANDS"

Much of the recent public debate over the Delineation Manual has concerned the question whether the Delineation Manual has altered the definition of "wetlands" for purposes of federal programs, most importantly, the permitting process under section 404 of the Clean Water Act. Obviously, the definition of "wetlands" has been established in the first instance by statute. There is little basis for disputing the basic definition of wetlands that appears in various federal statutes. Although there are some minor variations in words used, these definitions in general provide that lands should be classified as "wetlands" if three indicative characteristics are present: hydrology, hydrophytic vegetation and hydric soils. There appears to be general agreement among experts that these three factors are the primary scientific indicators of wetlands. These parameters serve as the analytic basis for determining the presence of wetlands under the Delineation Manual. So in a strict and literal sense, the Manual has not "changed" the broad general definition of wetlands.

It cannot be fairly claimed, however, that there has been no practical change in the scope of the Corps' claims of jurisdiction since the Manual took effect. Clearly, all three parameters are being applied more broadly, and in some cases, wetlands delineations are occurring on the basis of a single indicator. The consequence is that land possessing little in the way of obvious wetlands characteristics are now jurisdictional under section 404.

For example, although wetlands vegetation is one of the three major parameters for identifying wetlands, applicants are increasingly finding that vegetation is no longer a meaningful limiting criteria. Under current practice, plants that simply tolerate saturated soil conditions can fall within the definition of wetlands vegetation, an interpretation that effectively reads out the requirement that wetlands contain vegetation typically adapted to saturated soil conditions. This interpretation of the vegetation parameter makes it increasingly unlikely that in the absence of clear hydrologic conditions, a landowner will even recognize the presence of wetlands. More importantly, lands that lack true wetlands vegetation do not possess the kind of vegetation values that the wetlands regulatory program is designed to protect. If wetlands regulation is to be justified in such circumstances, then other wetlands indicators ought to be clearly evident.

That, however, is not always the case. The liberalization in requirements for determining wetlands vegetation has also been accompanied by a change in application of the hydrology criteria. Landowners can no longer assume that wetlands are limited to areas that experience saturated soil conditions or inundation for some reasonable portion of the growing season. In some instances, the presence of water within 18 inches of the surface for a minimum of seven days of the growing season can be sufficient to satisfy the hydrology requirement. Under such a test, lands may be "wetlands" even when standing water or wet surface soil conditions cannot be observed. Thus, areas that have not traditionally been viewed as wetlands --such as prior converted farmlands, lands artificially or temporarily made "wet" by incidental drainage activity, elevated hillsides and hardwood forests -- are sometimes falling within the definition of wetlands.

The overall effect has been the growing use of hydric soil as the sole criteria for determining the presence of wetlands. The Louisiana Farm Bureau Federation has testified that, of the 4.8 million acres of agricultural lands now classified as wetlands in Louisiana, approximately 4.3 million acres have been delineated as wetlands solely on the basis of soil type. By failing to delineate wetlands by all three criteria, agencies have broadened the sweep of Federal regulatory programs far beyond that contained in the statutory definition of "wetlands". This kind of interpretation puts a substantial burden on landowners to attempt to anticipate the presence of wetlands even where obvious indicators are not available. It also extends regulatory jurisdiction over lands that lack the ecological characteristics of wetlands and may therefore be outside the scope of lands that require regulation in the interest of wetlands protection.

This outcome can be particularly troublesome when the consequences of wetlands delineation are considered. Recent changes in the section 404 program, most notably the Memorandum of Agreement on mitigation policy, have substantially increased the regulatory implications of wetlands delineation. The sequencing requirement places upon the applicant the burden of a substantial alternatives analysis and imposes a clear policy preference against any activity in "wetlands". The MOA does not distinguish among different value wetlands for purposes of this requirement. The combined effect of loosening the definitional tests and strengthening the regulatory requirements is that lands with minimal wetlands values are subject to regulation under a program designed for the protection of lands that contain maximum wetlands values and characteristics.

Once jurisdiction is established, the costs of obtaining a permit can be substantial, even when the loss of wetlands values is marginal. Furthermore, regulators have the latitude to preclude activities and deny permits in wetlands of any value and costly requirements for compensation may be imposed for marginal losses. Unless this trend is corrected, there is a very real risk that the regulatory program will expand irrationally and arbitrarily, eventually confounding itself with the responsibility of regulating land uses that do not meaningfully threaten the conservation of wetland values.

Obviously, this outcome is not expressly prescribed by the Manual. But in applying scientific criteria to specific cases, some measure of judgment by field personnel is necessarily being exercised. Having reduced the criteria to a bare scientific minimum, field personnel now have vastly increased latitude to assert jurisdiction. By failing to impose related standards for the exercise of jurisdiction that account for the range of values found in lands that meet the minimum criteria, enormous opportunity for mischief and arbitrary administration of the section 404 program has been created. It is essential, therefore that to cure the problems in the current application of the Delineation Manual, policy guidance must be given to field personnel to avoid regulatory overreach in cases in which true wetlands values are absent or only marginally present.

CONCLUSION AND RECOMMENDATIONS

To address the issues described above, certain fundamental modifications of the Manual are necessary. The Manual should be revised to require expressly that all three indicative characteristics -- hydrology, truly "wet" hydrophytic vegetation and hydric soils -- be currently present. In addition, hydrology criteria should be revised to ensure that lands will not be identified as wetlands unless surface saturation for some reasonable period can be demonstrated.

Most importantly, we believe that it is critical to the successful administration of the section 404 program that the

Corps recognize that the Manual should only be used to determine the outer limits of these lands that scientifically qualify as wetlands. The Corps should provide a mechanism for assuring that jurisdictional wetlands are that subset of these lands that contain significant wetlands values and functions.

The Coalition recognizes that much of the recent difficulty in attempting to devise a successful regulatory program arises from the fact that current law does not contain a clear scale to be used by the agencies in balancing the many interests that must be served in an effective federal wetlands regulatory program. Ultimately, we believe that Congress must re-evaluate the current program, and devise a new federal program that adequately regulates activities that alter or affect wetlands values, but which explicitly relieves the program of the burden of regulating areas that provide the public with little in the way of true wetlands values.

We also believe, however, that, working within the current structure, the agencies have the ability and the responsibility to review the definition of wetlands with a full understanding of its jurisdictional implications. The tradition of balancing the variety of public and private risks and benefits is very much embedded in the history of the administration of the section 404 program, and is essential to its practical success. We therefore strongly encourage the Corps of Engineers to supplement the Manual in its final form with direction to field personnel that affirms the view that the delineation of wetlands for jurisdictional purposes should be exercised for the purpose of asserting authority over wetlands that possess true wetlands values and functions.

STRATEGIES FOR WORKING TOWARD A
NATIONAL GOAL OF "NO NET LOSS" OF WETLANDS

COMMENTS OF
THE NATIONAL WETLANDS COALITION
SUBMITTED TO
THE DOMESTIC POLICY COUNCIL TASK FORCE ON WETLANDS

SEPTEMBER 28, 1990

STRATEGIES FOR WORKING TOWARD A NATIONAL GOAL OF "NO NET LOSS" OF WETLANDS

I. INTRODUCTION

These comments are submitted on behalf of The National Wetlands Coalition in response to the request for comments published by the Domestic Policy Council Task Force on Wetlands regarding strategies for working toward a national goal of "no net loss" of wetlands. The National Wetlands Coalition, formed in September 1989, is comprised of a group of geographically and economically diverse companies and governmental entities, all of whom share a common interest in current and future policies affecting wetlands conservation, use and management.

The diversity of the Coalition's membership underscores the importance of the wetlands issue to the Nation.1/ Our public sector members include municipalities, local water and power authorities, and ports. We have members from the Alaska Native community and other major landowners, as well as non-profit members, including the Louisiana Nature and Science Center and the Audubon Institute. Industry sectors represented in our membership include oil and gas, gas transmission, retail and residential development, mining, electric utility, banking, and engineering.

1/ A copy of our current membership list is attached as Exhibit 1.

One of our major objectives in establishing the Coalition is to provide a means for those who own wetlands or who are engaged in economic activities in wetland areas to contribute constructively to the efforts of the Administration and the Congress to develop new wetlands policies and programs at a national level. The Coalition is committed to the development of a sensible and effective national wetlands policy that accomplishes conservation and restoration of the Nation's wetlands resources while accommodating public and individual needs for continued multiple use of wetlands areas.

The Coalition is among those who have encouraged the Domestic Policy Council Task Force on Wetlands to hold regional public hearings on national wetlands policy. The Coalition is particularly pleased that the Task Force has committed the time and resources necessary to travel to different regions of the country to hear public response to the policy issues involved in implementation of "no net loss" strategies. The Coalition's chairman, H. Leighton Steward, appeared at the August 27, 1990 hearing in New Orleans, Louisiana, and testified about the unique problems posed by coastal erosion in Louisiana and the goals of Coalition members in developing regulatory policies and other programs that can gain widespread public participation in wetlands conservation and management activities.2/ We hope that

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2/ A copy of that testimony is attached as Exhibit 2.

the DPC shares our view that the hearings were particularly helpful in identifying the complicated interests and objectives that must be balanced in achieving a fair, workable and successful wetlands policy.

II. PURPOSE OF THESE COMMENTS

The charge of the Domestic Policy Council Task Force is to develop strategies for moving toward the national goal of "no net loss" of wetlands. Having received a large volume of public testimony through regional hearings and written testimony, the Task Force now has before it the formidable responsibility of identifying and distilling the voluminous and often contradictory information collected over recent weeks. From that distillation, the Task Force must outline overall principles governing a national wetlands conservation strategy, identify specific programs for accomplishing that strategy, and develop a workable timetable for implementing the program and monitoring its progress. In these comments, we have attempted to identify the major issues that we believe have emerged as a result of these hearings. We have offered suggestions as to the basic principles that we believe should govern national wetlands policy and have also made several specific recommendations for moving toward the national goal.

III. DISCUSSION OF THE RESULTS OF THE PUBLIC MEETING

The Coalition believes that the regional hearings were particularly instructive in identifying the variety of issues raised by the national wetlands policy debate. Although the opinions were diverse, a number of recurring themes could be identified. These themes ranged from general concerns over the environmental consequences of wetlands losses, the role of the federal government in wetlands conservation, and the implementation of the "no net loss" goal to more specific concerns with the current federal permitting program.

1. There is increasing public awareness of wetlands issues and a growing interest in conserving and restoring the resource base.

- There is clearly a growing concern with the environmental consequences of wetlands loss in this country. Many people who testified at the regional hearings appeared to support the general goals of increased wetlands protection.

- Some believe the problem of wetlands loss to be so severe that the imperative for protection in most instances exceeds other possibly countervailing benefits of multiple use of wetlands. Consequently, these witnesses strongly support the strict rules for "avoidance" of wetlands such as those reflected in the recent Memorandum of Agreement on mitigation policy, and recommend additional regulation as the primary means for accomplishing wetlands protection.

- Several witnesses, such as recreational users and fishermen, identified for the Task Force specific resources that have been adversely affected, and suggested increased regulation and acquisition as an appropriate means for addressing this problem.
- In a number of instances, concern for wetlands loss was linked to larger local concerns with development activities generally.
- In addition to requests for strengthened regulation, many witnesses (ranging from conservation groups to users) encouraged increased government acquisition for scarce, fragile, high value wetlands, in part because of the heightened level of protection associated with lands held in public trust and also as a means for ensuring that the public sector share the burden of the cost of wetlands protection.
- Many users also indicated a willingness to respond to positive encouragement for wetlands protection.
- Most of the witnesses agreed that there is a need for a useful inventory of wetlands resources that better enables us to understand the relative values and functions of the different types of wetlands resources.

2. While general recognition of the need for enhanced wetlands protection was quite broad, substantial reservations were also expressed about the implementation of a federal "no net loss" policy.

- Much of this reservation was reflected in concern over increased regulatory limitations on the use of wetlands for economic purposes.

- Perhaps the most obvious area of concern was related to the recently adopted federal manual for delineating wetlands, which has affected farmers, timber interests, the cattle industry, the development sector, and all major land users. It has also affected individuals in the use of their property for homes and small businesses. Based on the evidence presented at the regional hearings, it seems apparent that, in practical application, the delineation manual has expanded the discretionary reach of the federal permitting process. This expansion, coupled with the heightened, though as yet undefined governmental interest in wetlands conservation, has given field personnel a presumed license to reach a wider range of land use activities through the section 404 permitting process.

- A second area of concern relates to changes in mitigation policy as reflected in the MOA. Although the MOA contains certain language that some believe provides flexibility for granting exceptions to the more stringent requirements of strict sequencing and compensatory mitigation, the experience of many witnesses is that these exceptions are quite limited. Many feel that the MOA has been read to eliminate the flexibility of

Corps field personnel to balance economic considerations and public interest factors. This loss of flexibility has affected development projects sponsored by both the public and private sectors.

3. While most witnesses assume that there will be some role for the Federal government in wetlands policy and management, there was concern that a strong Federal program could be unresponsive to local needs.

- A number of witnesses addressed the difficulties and relative benefits and disadvantages of a federal program. In our view, there appeared to be substantial agreement that the federal government has a critical leadership role in wetlands policy, particularly in the areas of education, funding for acquisition and to assist state programs, and in improved stewardship of federal lands.

- There was also considerable support for state programs, and support for major restoration projects, such as in Louisiana and the northeast.

- Some witnesses strongly favor the federal government taking the lead in regulatory programs, based upon the view that the federal government is less vulnerable to local demands and better capable of providing a strict and coherent conservation policy.

- Others questioned the ability of the federal program to accommodate local planning objectives. For example, Emily Shue of the Oregon League of Cities described a circumstance in which federal wetlands regulations have come into conflict with local planning efforts to designate certain wetlands areas as development areas.

4. Much of the hesitation about a strengthened federal role arose from experiences with the current federal permitting program.

- A number of witnesses believe that the jurisdictional scope of the Section 404 program is insufficient to reach many activities, such as draining and ditching, that can result in significant wetlands loss. A number of witnesses, including some users, believe that an effective federal wetlands regulatory program must include authority to regulate such activities.

- In addition to concern expressed about the Delineation Manual and the MOA, concern was also expressed with regulatory duplication and uncertainty caused by intervention of federal agencies, other than the lead permitting agency, in later stages of the permitting process.

- Concern was raised that the wetlands regulatory program has been used to stop development projects for reasons substantially unrelated to wetlands protection.

- A substantial number of individuals believe that a strictly enforced "no net loss" policy would result in a regulatory taking of private property.

- There was also concern raised about the diminishing local tax revenues that would occur if larger amounts of private lands were withheld from economic use.

- There is concern that strict federal wetlands policies do not account fully for public projects needs, such as water and transportation projects.

- Although there was substantial diversity of opinion, we believe that the clear weight of opinion is that wetlands management often involves important land use issues that should either be controlled by the states or should be fashioned with as much deference as possible to local circumstances and needs.

- This is particularly important in Alaska, Louisiana, and coastal Georgia which have special environmental and land use problems that appear to distinguish them from other areas of the country. In our view, these are dramatic examples of the unique situations that are often presented when the specific circumstances of other states and areas are closely examined.

5. There is considerable controversy over the usefulness and appropriate role of compensatory mitigation.

- Some witnesses clearly support the limited role of compensatory mitigation set forth in the MOA, which provides for compensatory mitigation as a last resort only after avoidance and minimization are found to be sufficient to reduce fully wetlands impacts on wetlands.

- Users from a number of states with limited development opportunities and large areas of degraded wetlands suggest that compensatory mitigation is critical to reconciling competing interests, in particular, private landowner interests and conservation interests.

- In other areas, such as the western states or Alaska, compensatory mitigation opportunities are often unavailable.

- As a general matter, there is increasing concern that mitigation requirements remain cost effective and reasonable in relation to values lost.

- While mitigation banking appears to be an attractive option, particularly as a means for maintaining and restoring large areas of degraded wetlands, little has been done to define terms for practical application of mitigation banking.

6. It is clear that differences in important areas of policy remain.

- For example, there is no consensus on how to measure progress towards the "no net loss" goal, i.e., whether "no net loss" should be enforced on a project by project basis or should be viewed as a more general goal.

- While there was substantial support for the need to rank wetlands according to function and value, little was offered in the way of guidance for determining how to establish an effective ranking system.

- Although there is widespread agreement that degraded wetlands should be restored and that new wetlands should be created, there is substantial difference of opinion on the feasibility of creation activities and, to a somewhat lesser extent, restoration activity.

An obvious but nevertheless important observation to make about the public testimony is that it confirms the widespread significance of wetlands policy issues to a large number of people. As the Task Force is well aware, approximately 74% of the nation wetlands are in private ownership. Some of this ownership is concentrated in highly productive sectors of our economy, including housing and commercial development, energy and fisheries. In addition, a substantial portion is dispersed among home owners, hunters and fisherman, farmers and diversity of small business people. The widespread and diverse interest in the Task Force's efforts should, therefore, come as no surprise; a "no net loss" program, however it is ultimately defined, will be in large measure a program for conservation of privately owned resources. As a consequence, reliance upon overly severe restrictions on wetland use as a means for accomplishing the "no net loss" goal could come into direct conflict with Constitutional rights to the use and enjoyment of private property interests. Moreover, even legally permissible regulatory limitations result in the diminution of private use and therefore in the loss of private economic productivity.

Some of the concerns expressed in the hearing that a federal "no net loss" program would adversely affect economic productivity are anticipatory, suggesting concern over policies that, from the Task Force's perspective, have yet to be shaped. It should be recognized, however, that even these anticipatory concerns have not arisen in a vacuum. Although the Task Force has only recently begun to grapple with the issues involved in implementation of the President's initiatives, there have been a wide variety of efforts at local and state levels, as well as a number of changes in existing federal programs, that have affected many people across the country. Some of these initiatives represent carefully conceived programs, such as the "no net loss" policy in North Dakota and the local planning activities in Anchorage or Eugene, Oregon. These are useful models for balancing competing demands on the wetlands resource base. Other, less positive experiences cited by witnesses result from difficulties and problems in permitting processes that arise from attempts to enforce heightened wetlands protection standards in the absence of a clearly stated and balanced policy direction.

We believe that much of the trepidation about a "no net loss" policy can be relieved if the Task Force can forge an overall policy goal that governs all federal programs and which reflects a recognition of the need to accommodate both conservation and use of wetlands. Such an overall policy goal can serve as the basis for marshalling both existing and future federal policies and programs and can serve as a model for state and local programs as well.

IV. DEVELOPING AN OVERALL POLICY GOAL

There have been numerous attempts over the last several years to fashion goals and statements of principles respecting wetlands use and conservation. The goal set forth in the Wetlands Policy Forum Report suggests two important short- and long-term aspects of such a goal -- slowing the rate of wetlands loss and providing for long-term restoration. We believe the Forum Report can be a useful point of departure for defining policy goals related to conservation and enhancement of the Nation's wetlands resources. However, as the Task Force's hearings well demonstrate, other factors must be taken into account in order establish a federal program that fully accommodates other federal policy objectives and can gain widespread acceptance. These include:

-- the need to maintain economic vitality of particular economic sectors, geographic areas and the economy overall;

-- the need to respect and account for local planning, conservation and development objectives;

-- the obligation to respect private property rights;

-- the need to accomplish other environmental policy objectives; and,

-- the need to discipline federal spending.

The guiding objective of federal policy making, therefore, must be the reconciliation of these factors with increased wetlands protection.

The Coalition believes that these interests can be reconciled, but only if difficult policy choices are made and priorities identified. It must be recognized that all "wetlands" cannot be shielded from development through regulatory prohibitions without seriously interfering with important private economic activity and incurring prohibitive costs by the taking of private property interests and the loss of tax revenues. Therefore, it is essential that we critically determine which wetlands areas cannot and should not sustain any intrusion; which wetlands can sustain intrusion and loss subject to regulation and mitigation; and which "wetlands" have only marginal environmental values and can therefore be placed outside a strengthened regulatory regime.

For public policy purposes, this is not simply a scientific determination. It is a practical one as well. Many wetlands can sustain certain kinds of intrusions without significant functional losses. Other wetlands may serve some valuable wetlands functions but are more appropriately used for economically productive purposes. Although activities in such areas may involve a wetlands "loss", compensation for such a loss may be appropriate. Tailoring the system to protect higher value wetlands also helps to avoid the drag on the regulatory system that comes from over-inclusiveness. Indeed, much of the recent controversy stems from the combined effect of tightening regulatory controls, such as in the MOA, and simultaneously expanding the reach of federal regulators, such as has resulted from the adoption of the Delineation Manual.

We ask that, in formulating the goals of a national wetlands policy, the DPC take into consideration the attempt made by the Coalition to wrestle with this issue in our Statement of Principles:

> "No overall net loss of values" is an appropriate goal for achieving the effective conservation of significant wetlands values and functions. This goal should be pursued by implementation of a variety of regulatory and non-regulatory programs designed to conserve the highest value of wetlands to ensure that development activities and wetlands conserve wetlands values and functions to the maximum extent practicable, to eliminate and streamline procedures for use of wetlands for marginal resource value, and to provide incentives for private wetlands conservation efforts.3/

V. SPECIFIC RECOMMENDATIONS

The Coalition offers the following recommendations for incorporation into the Task Force strategies for working toward the "no net loss" goal.

1. Reviewing internal agency goals and practices. We believe that the most important function of the federal government in developing a national wetlands policy is leadership in defining the appropriate balance among landowner rights, economic productivity, social and infrastructure needs, and

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3/ The full text of the Coalitions Statement of Principles is attached as Exhibit 3.

wetlands protection. Once established by the DPC, these standards can be pursued and implemented through a variety of different coordinated initiatives by various federal agencies. We understand that many agencies are now examining their own practices and procedures to develop internal wetlands policy. We suggest that each agency be directed to devise an internal plan for adapting its policies to the standards for balanced wetlands management established by the DPC. This is particularly important for agencies that are not substantially involved in wetlands regulatory programs or federal land management.

2. Review land assets not presently committed to conservation units. As the Task Force is aware, the federal government has significant holdings that are neither part of the public domain nor have been acquired specifically as conservation units. An obvicus example raised frequently before the DPC are properties to be acquired by the United States through the Resolution Trust Corporation's liquidation of savings and loans assets. Such properties may have wetlands values that can be set aside from development or be subject to easements which limit use to those with minimal or limited impacts on wetlands functions and values. We believe that this land asset also creates a unique opportunity to work with the private sector for wetlands restoration and should be reviewed to determine whether, they contain possible mitigation banking sites. In addition, portions of these lands can be acquired by the private sector in exchange

for guarantees of commitments for restoration activities on associated areas.

Quite obviously, the decision to devote federal land assets to conservation is a difficult one and will require a willingness to forego the benefits to the Federal treasury associated with selling such land. However, unless the United States government demonstrates a commitment to conservation in this fashion, it is untenable to expect private landowners to take the initiative in the commitment of their resources to conservation purposes.

3. Analyze existing programs to eliminate duplication. As the Task Force is aware, a large number of federal statutes administered by a number of federal agencies affect wetlands programs. This has produced duplication, and in some cases bizarre and contradictory legal requirements. While we recognize that many of these programs have somewhat independent legislative purposes, it is unreasonable to expect that these programs can continue to function effectively with the number of different agencies setting standards for activities in wetlands. We strongly recommend, therefore, that the Task Force undertake a critical review of the authorities exercised by various agencies under the Coastal Zone Management Act, the Endangered Species Act, the Clean Water Act, and other programs, and attempt to provide if not the elimination of duplicative requirements, at least a level of consistency that could provide some predictability in the regulatory processes.

4. Review current management of federal holdings. Such a review may well be underway by agencies such the Fish & Wildlife Service and others. We believe that some areas are already models of good practices. These include areas that are under conservation status, as well as areas that are subject to some effectively regulated uses. For example, activities under federal leases have been subject to permit conditions over a number of years. In some areas such as Alaska, permit conditions and ongoing scrutiny have led to the development of sound techniques for avoidance and minimization. These practices can be reviewed and perhaps can serve as useful models for practices on other federal lands.

It is our understanding that a number of federal land management agencies have begun to review their inventories to determine whether these lands can be more effectively managed for purposes of increased wetlands protection. In some cases, additional restrictions on use may be appropriate. It should also be recognized that conservation of federally owned land can, in some instances, be accomplished without setting aside the land from all economic uses, particularly intrusions that are minimal and temporary. Moreover, revenues that derive from leases authorizing such activity can be used for conservation purposes if the Administration and Congress establish wetlands conservation as the appropriate priority.

5. Marshalling existing resources. There is already in place a number of programs that can accomplish a great deal. Perhaps most important are programs in the area of education. We believe that public education is an essential part of achieving a national "no net loss" strategy. For much of our history, wetlands have been viewed as wasted areas of pestilence that should be converted to usefulness. Elements of this notion persist. Dispelling that notion and teaching the public of the environmental and social uses of wetlands is therefore critical to gaining broad public support for improved wetlands conservation and management. Legislation is now pending to establish a "Year of the Wetlands". This could be an important public education device, and should be endorsed by the Administration. In addition, the Soil Conservation Service, the Fish & Wildlife Service and the National Park Service also have educational programs. These programs should be encouraged and strengthened.

6. Internal education. As noted earlier, we believe that much of the adverse reaction to the policy goal of wetlands protection derives from actions of local federal officials who lack clear and balanced policy direction. It is therefore important to develop an eduction program for federal agency personnel that emphasizes both technical aspects of wetlands protection and the need for administration of regulatory and nonregulatory programs in a balanced, expeditious and effective manner.

7. Provide sufficient resources. It is our experience that the majority of federal personnel are committed to the efficient and effective administration of the programs within their charge. However, increasing pressure to reduce federal government cost has placed considerable stress on both regulatory and nonregulatory wetlands programs. Regulatory requirements that impose higher standards for permit applications simply cannot be administered if the commitment to increased regulation is not accompanied by the commitment of resources necessary to get the regulatory job done.

8. Encourage local planning. It is obvious from these hearings that wetlands conservation will require different kinds of efforts in different areas. Some problems are unique to a particular watershed; others are dictated by local economic and environmental factors. Different states already have planning activities in place. Priorities are very different and the means for accomplishing them vary just as markedly. In some areas, significant progress has already been made and the Task Force should take advantage of that. The Lower Mississippi River Commission has been convened and has had substantial hearings on the environmental issues associated with conservation in the Mississippi Delta area. Their work could be a useful starting point for developing a localized plan for addressing the problems faced in Louisiana and the lower Mississippi Valley.4/

4/ A copy of their resolution is attached as Exhibit 4.

We believe that the Task Force should also consider the establishment of cooperative regional commissions, including public and private sector members, to accomplish specific projects and to evaluate the priorities for the area. Such commissions should have a narrow enough charge so that the end product can be meaningful and can be implemented. For example, such a commission in Louisiana could examine specific restoration projects and make recommendations to the Congress for funding of such projects. In addition, specific commissions in individual states or particular watersheds could be established to identify mitigation sites for possible use as mitigation banks. In addition, also on a state or regional basis, a commission could be charged with developing a model for mitigation banking.

9. Regulatory reform. As noted earlier, the Coalition believes that significant regulatory revisions are necessary in order to establish an effective national wetlands policy. The Coalition recognizes that a number of activities that adversely affect wetlands, such as draining and ditching, are not within the current scope of Section 404. The Coalition would support regulatory revisions that bring such activities under control. However, expanding the scope of effective activities only makes sense if the lands covered under Section 404 are limited to functional wetlands and if the regulatory consequences vary in relation to the functional values of the wetlands affected.

A number of important changes are necessary to eliminate the burdens on the system that are now occurring as a result of unnecessary regulation:

(a) It is essential that authority be consolidated in one agency. We believe that the Corps of Engineers has substantial experience in this area, and should remain the permitting agency. Other agencies, such as the FWS and the EPA clearly have missions that can be furthered through the permitting process. But such agencies should be required to raise these issues early in the process. In the end, one permitting agency must have the authority to make dispositive decisions.

(b) It is critical that exemptions be provided for activities that do not really require federal regulation. The Task Force heard of a number of circumstances in which development activities in very low value wetlands require the same level of regulatory approval as cases involving alternatives of highly functional wetlands areas. Other cases illustrate that minor projects, and even individual residential activities, can be made subject to complicated permitting activities. Exemptions for low impact activities improve the workability of the system, encourage development away from higher value wetlands and avoid the expenditure of federal resources, for activities of marginally consequence. In addition, an effective exemption program helps to ensure that the program will not be used to halt projects that some find objectionable for reasons unrelated to wetlands protection. To preserve the integrity of the program, therefore, it is essential that activities with marginal impacts on wetlands values and functions be freed of the burdens of a federal regulatory process.

(c) The Delineation Manual should be reviewed and its scope limited to avoid the regulation of lands that do not possess significant wetlands values and functions.

(d) We believe that the federal program must come to grips with the implications of permit denial for private property rights. A landowner deprived of any economically productive activity on his land has suffered a taking. We believe that it is the responsibility of the government to provide a meaningful and expeditious remedy for people who, through wetlands permitting restrictions, are going to be deprived of economically productive use of their land.

(e) The tendency toward rigidity in regulation, particularly in the area of mitigation, should be reversed. In order to avoid headlong confrontations with landowners over taking claims, and to encourage landowner participation in restoration, it is essential that the permitting process occur in an atmosphere of flexibility. Sequencing has discouraged a reliance upon compensatory mitigation in many areas where the benefits of compensation could be significant. In many cases, compensatory mitigation does emerge as the end result, but strict sequencing creates great pain in getting there. We believe that the opposite should be the case and that if the government wishes to draw upon the imagination of financial resources and commitment of landowners, cost-effective compensation must be available up front in the regulatory process.

We recognize that many of these changes would require substantial Congressional action and we are hopeful that the Task Force will include among its recommendations a set of regulatory reforms intended to accomplish the objectives of a balanced national wetlands regulatory program. We note that even in the absence of legislation, authority exists to undertake negotiated rulemakings to establish mitigation standards and plans for specific cases in areas. We strongly encourage the use of this device as a means for streamlining permit consideration.

10. Landowner incentives. Another issue posing difficult policy choices is the question of devising meaningful conservation incentives for landowners. All witnesses agree that landowner and land user incentives are critical to a successful program. However, it must be recognized that, as a practical matter, landowners and users must generate revenues in order to be able to invest in restoration, compensation and other enhancement activities. Encouragement for such investment must occur both as a part of the regulatory process and independent of it. As a regulatory matter, if choices can be made among different kinds of wetlands, it is then possible to create conservation incentives through permit terms and conditions that encouraging developers to avoid high-value areas to the fullest extent practicable by permitting them to undertake activities in lower value areas.

Avoidance and minimization do have roles as tools for working out project designs. In some areas, such as in Alaska oil operations, they are preferable. However, absolute avoidance cannot work as a regulatory imperative on private lands unless the federal government is prepared to live with the economic consequences.

Recognition of the potential values of compensatory mitigation is also critical in accomplishing the long-term goal -- enhancement and restoration of the resource base where significant losses have occurred. We believe that it is essential that the private sector be persuaded to participate in major mitigation projects. The most effective means for accomplishing this currently at the disposal of the federal government are permit conditions imposed in the context of a flexible and cooperative permit process designed to encourage creative mitigation requirements. If, by contrast, compensatory mitigation is discouraged, the federal government would eliminate the most obvious opportunity to gain private sector participation in mitigation projects.

Another clear incentive for avoiding and minimizing impacts is the promise of efficient consideration and a cooperative permitting environment for activities that have lesser adverse impact. Although there exists in current law the opportunity for such a process through the Corps' nationwide, general and regional permits, recent history suggests that in practice rendering the use of these permits is increasingly problematic. In some instances, these permits are being laden with requirements for alternatives analyses and compensation requirements that approach the full rigors of the individual permit process. It may be appropriate to redesign the general permits at a policy level to provide for compensation in appropriate cases. However, it is wholly counterproductive to administer the general permit program in a manner that so dilutes its benefits that users can find no meaningful difference in the regulatory consequence of low, moderate and high impact activities.

In addition, we believe that landowner incentives can be improved upon in three major areas:

(1) Economic incentives in the form of tax considerations either at the local or federal level can be important incentives to encourage landowners to set aside or restrict their use of lands. However, it is essential that the economic incentives are sufficiently attractive and offer fair market value when land is permanently taken out of development.

(2) It should be recognized that a private landowner's enforceable commitment to refrain from economic use of his property is a gain in wetlands protection. The single most effective way of adding to the conservation base is to treat the preservation of private land as mitigation. Such an approach can eliminate a development threat without having to face the difficult issues of fashioning an appropriate mitigation plan or compensating private landowners.

(3) We believe that in many regions of the county mitigation banking is essential to the ultimate goal, which is to regain wetlands resources that have previously been disturbed. Mitigation banking in principle permits the pooling of private

sector resources under the supervision of expert, private or governmental management. In the absence of banking, we will continue to pursue mitigation as a "band-aid" approach, and the potential benefits of layer scale, more complex restorations cannot be achieved. We believe that mitigation banking can be effective when expertly done, when sufficient resources are committed to maintain the bank, and when the bank is maintained under supervision of experts necessary to assure performance.

VII. MEASURING PROGRESS

Use of the phrase "no net loss" as a description of the wetlands conservation goal has conjured up images of acre-for-acre accounting systems. This concept has been criticized from two perspectives. Many, including the Coalition, view this analysis as impractical because of the private lands involved and because of the enormous variations in values. We agree that taking the measure of acreage lost and gained may well be one indicator of wetlands protection, but it is only that. The reliance upon acreage as a determinant of values lost and gained skews individual permit decisions. And, it makes it less likely that socioeconomic benefits of particular projects will properly be taken into consideration.

In addition, and just as importantly, a project-by-project, acreage based accounting system does little to contribute to long-term gain. As described earlier in our comments, we believe that the private sector participation is critical to achieving the long-term goal, and that private sector contribution must occur in the context of some continuing use of wetlands. If acreage compensation becomes the talisman of success in wetlands conservation, important opportunities for innovation and experimentation will be sacrificed.

We believe that only a functional approach to wetlands loss and gain can effectively measure progress in working toward the goal. We suggest that progress should be monitored by a designated federal agency on a regional or watershed basis. This monitoring can be done in five-year increments, through the development of a report that attempts to quantify land acquisitions, lands set aside for preservation through regulatory and non-regulatory programs, as well as the amount of land committed to development through permitting. The report should also contain a qualitative analysis, which identifies gains made through enhancement activities and which does not assume that losses occur simply by virtue of temporary or minimal intrusions. This report can serve as a basis for the periodic revision of federal policy to ensure continued progress toward the "no net loss" goal.

V. CONCLUSION

We hope that these comments are helpful to the Task Force. We very much appreciate the efforts of the Task Force to devise and effective and reasonable wetlands program, and look forward to continuing to work with the Task Force toward this end.

The
National
Wetlands
Coalition

Volume 1, Number 9 January 18, 1991

WASHINGTON UPDATE

THE WETLANDS CONSERVATION AND MANAGEMENT ACT TO BE REINTRODUCED WITHIN THE NEXT MONTH:

The sponsors of H.R. 5968, the Wetlands Conservation and Management Act of 1990, plan to reintroduce the bill early in the 102nd Congress. The current target date for reintroduction is January 28th. The lead sponsors are currently reviewing the numerous comments and suggestions regarding the legislation submitted to them to determine what, if any, changes will be made to the bill.

On December 18th, 35 Coalition members and interested parties met with Rhod Shaw, Legislative Director for Rep. Jimmy Hayes (D-LA), Mark Holman, Administrative Assistant to Rep. Tom Ridge (R-PA) and Lee Forsgren, Legislative Assistant to Rep. Don Young (R-AK), to discuss H.R. 5968 and strategies for the coming Congress. The staff members indicated that they are especially interested in suggestions about how to deal with temporary versus permanent activities in wetlands.

Additionally, the staff encouraged the Coalition members to begin contacting their members of Congress to express support for reform of the Section 404 program. They also suggested that any Coalition members who endorse the provisions of H.R. 5968 request that their Representatives sign on as original cosponsors of the legislation in the 102nd Congress. The staff members of the current sponsors are actively seeking additional original cosponsors for the bill at this time and would like to have as many as 50 cosponsors when the bill is reintroduced.

ROBERT ROE (D-NJ) SELECTED AS CHAIRMAN OF THE HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE:

In a rare move, the House Democratic Caucus elected Rep. Robert Roe (D-NJ) to the chairmanship of the Public Works and Transportation Committee to replace Rep. Glenn Anderson (D-CA). Apparently, a number of the Committee members expressed their growing concerns about Rep. Anderson's leadership abilities during Democratic Caucus meetings in early December and argued that a more forceful and effective chairman was needed for the next Congress when the Committee will develop reauthorization legislation for the highway program and the Clean Water Act.

Rep. Roe has served as the chairman of the Water Resources Subcommittee and is known as an expert and effective advocate for improving the country's water resources. Although it is still unclear how Mr. Roe will ultimately view reform of the Section 404 program, several staff members have suggested that he may in fact be amenable to considering changes to the current program. Rep. Jimmy Hayes has discussed the provisions of H.R. 5968 at length with Mr. Roe who reportedly has expressed interest in the legislation.

EPA ADMINISTRATOR REILLY SEES MERIT IN APPLYING A "DUCK TEST" TO WETLANDS:

In an interview in the December 21st edition of **INSIDE EPA**, EPA Administrator Bill Reilly stated his interest in a wetlands classification plan that would link the level of protection for a wetland with its ecological value. Reilly, maintaining that the wetlands issue is one of his highest priorities, stated "My personal sense is that we need to find a way of applying a 'duck test' to wetlands". According to Reilly, "That probably will result in some kind of a classification system that identifies a hierarchy of wetlands values."

While the EPA has not begun a reclassification effort, Reilly said he feels it is "something that makes sense." He mentioned during the interview that many of those involved in the wetlands issue support such an approach. When he met with Mr. Reilly on September 25th before the Coalition's annual meeting in Washington, Coalition Chairman Leighton Steward stressed the need for classifying wetlands according to values and functions and developing a regulatory program that takes into account those different values.

CORPS ISSUES REGULATORY GUIDANCE LETTER ON PILINGS:

On December 14, 1990 the Corps of Engineers issued a Regulatory Guidance Letter (No.90-8) that makes it clear that in many instances pilings will be considered as fill material and, therefore, their use will be subject to the Section 404 permit process.

According to the RGL, the Corps historically has not viewed as fill material piles used for traditional pile-supported structures such as docks and bridges. However, the Corps maintains that pilings are now being used as a replacement for fill material for certain projects in wetlands. The RGL states "...there is increasing reliance on construction methods involving the use of pilings in place of fill, often at additional cost, in order to avoid regulation under the CWA Section 404." The letter maintains that based on current regulations, the use of pilings in waters of the U.S. will now require authorization under Section 404 when their "placement is used in a manner essentially equivalent to a discharge of fill material in physical effect or functional use and effect."

The placement of pilings for linear projects such as bridges, elevated walkways or powerline structures, or for structures that have traditionally been constructed on pilings such as piers, boathouses, wharves, marinas and beach houses, will not be regulated under Section 404. A copy of the Regulatory Guidance Letter is attached.

EPA AND CORPS ESTABLISH JOINT WETLANDS ENFORCEMENT INITIATIVE:

On December 12, 1990 the Environmental Protection Agency and the Corps of Engineers established a wetlands enforcement initiative that will be carried out in two phases. The stated purpose of the initiative is to emphasize the Federal government's commitment to Section 404 enforcement, to educate the public about the Section 404 program and to publicize Section 404 violations.

The first phase is planned for April, 1991 at which point the initiative will be announced and a number of selected Section 404 enforcement cases will be detailed. The Corps and EPA also expect to file a "cluster" of Section 404 enforcement cases at the same time.

The next phase is planned for October, 1991 and will be similar in nature to the first, with announcements of additional Section 404 enforcement actions and another "cluster" filing. Each phase will begin with a joint EPA/Corps/Department of Justice press release and press conference.

The initiative directs the EPA Regions and Corps Districts to select cases to be publicized "which have one or more of the following elements: - a discharge into a wetlands that is identified on the Region's Priority Wetlands List or is an important and/or threatened area in the Region or District; - a case which will have high deterrence value in the Region, District of Nation, e.g., a particular industry, business or land development entity which engaged in unauthorized discharges of dredged or fill material; - a discharge by a repeat or flagrant violator, e.g., someone who engaged in an unauthorized discharge activity after being denied a Section 404 permit or withdrawing a permit application for such activity."

Each EPA Region is directed to submit at least one case for each phase and each Corps District is directed to submit at least two cases per phase. The EPA/Corps memo detailing the enforcement initiative is attached.

MARYLAND MAN FACES 15 YEARS AND $250,000 IN FINES FOR WETLANDS VIOLATION:

William Ellen, a Virginia contractor, has been found guilty by a Baltimore jury of filling in 86 acres of wetlands on Maryland's Eastern Shore. Mr. Ellen was convicted on five of six charges of violating Section 404 of the Clean Water Act and faces up to 15 years in prison and more than $250,000 in fines.

The violations occurred while Mr. Ellen served as the project manager for the construction of a private game preserve in Maryland near the Blackwater National Wildlife Refuge. The prosecutors argued that he was aware of, but ignored, necessary permits for the projects and the defense maintained that he was misled by Federal bureaucrats who did not tell him of the permit requirements. The owner of the property, a well-known New York commodities trader, last year pled guilty to several alleged Section 404 offenses and was ordered to pay a $2 million fine.

SENATE MAY MOVE QUICKLY ON CLEAN WATER ACT REAUTHORIZATION:

The Senate Environment and Public Works Committee staffers have begun a series of briefings with states, industry and environmental groups on the reauthorization of the Clean Water Act, indicating that Clean Water may be the first item on the Committee's agenda this Congress. Originally it was expected that the Resource Conservation and Recovery Act would be considered first by the Committee. Committee staff members have indicated that Clean Water hearings may begin in March or April.

Some observers believe that the Senate is interested in quickly passing Clean Water Act reauthorization legislation to avoid a lengthy battle over Section 404. Whether or not the Senate addresses Section 404 reform, Senate conferees would consider the matter in conference if Section 404 reform provisions were contained in the House version of the reauthorization legislation.

The House is also expected to begin Clean Water hearings in March or April.

HOUSE SMALL BUSINESS COMMITTEE SCHEDULES WETLANDS HEARINGS:

The House Small Business Committee will hold two hearings on how wetlands protection laws affect the small business community. The first will be a field hearing in Lockport, New York on January 22nd. The second will be held in Washington, D.C. on January 30th at 10:00 a.m. in room 2359 Rayburn House Office Building.

Congressman John LaFalce (D-NY), Chairman of the Small Business Committee, recently agreed to be an original cosponsor of the version of H.R. 5968 to be introduced this Congress.

DELINEATION MANUAL REVISIONS EXPECTED SOON:

The Domestic Policy Council Wetlands Task Force will soon receive suggested revisions to the Federal Manual for Identifying and Delineating Jurisdictional Wetlands from the four Federal agencies which originally adopted the Manual. The Corps of Engineers, the Environmental Protection Agency, the Soil Conservation Service and the Fish and Wildlife Service are finalizing their joint recommended changes which are based upon the testimony they received at hearings on the Manual last summer. That testimony was limited to strictly "technical" comments. The Wetlands Task Force is expected to approve the revisions to the Manual.

Many are concerned that the changes will not go far enough in addressing problems associated with the Manual. An additional concern is that the Manual should be subject to the formal rulemaking process. At this point, it is not clear whether the Manual revisions will be subject to the public notice and comment process.

SUMMARY OF DPC WETLANDS TASK FORCE HEARINGS COMPLETED:

The summary of the oral and written comments received during the six DPC Wetlands Task Force hearings will be published in the Federal Register in the near future. The summary report has been completed by the Wetlands Coordination Team and is being reviewed by the Task Force.

The report is based upon the thirteen questions witnesses were asked to address in their comments, and reportedly consists of a summary of the various views expressed on each question.

SENATORS SYMMS AND BOREN INTRODUCE S. 50,
THE PRIVATE PROPERTY RIGHTS ACT OF 1991:

On January 14th, Senator Steve Symms (R-ID) and Senator David Boren (D-OK) introduced S. 50, the Private Property Rights Act of 1991. The stated purpose of the legislation is "to ensure that agencies establish the appropriate procedures for assessing whether or not regulation may result in the taking of private property, so as to avoid such where possible." The adoption of S. 50 would codify the procedures stipulated in Executive Order 12630 that require Federal agencies to assess and reduce the impact of agency actions which result in the loss of private property rights.

Other original cosponsors of S.50 are Senators Burns (R-MY), Craig (R-ID), Grassley (R-IA), Hatch (R-UT), Heflin (D-AL), Helms (R-NC), Nickles (R-OK), Pryor (D-AR), Thurmond (R-SC) and Wallop (R-WY). S. 50 has been referred to the Committee on Governmental Affairs.

CONGRESSMAN HAMMERSCHMIDT INTRODUCES H.R. 404:

Congressman John Paul Hammerschmidt (R-AR), ranking minority member of the House Public Works and Transportation Committee, introduced H.R. 404, the Wetlands Protection and Regulatory Reform Act of 1991, on January 3rd. The bill was referred to the Public Works Committee.

The bill would establish a no overall net loss of wetlands policy for the country, provide differing levels of protection for wetlands based on their acreage, function and value, and reform the Section 404 permit procedure, among other things.

One of the major differences between H.R. 404 and H.R. 5968 is the manner in which the bills address the takings issue. H.R. 404 directs the EPA to modify the 404 (b) (1) guidelines to give greater deference to private property rights during the permitting process and calls for a study of the effectiveness of Executive Order 12630. H.R. 5968 provides that the classification of land as a highest category wetland is a taking for which just compensation of fair market value must be made.

COALITION BOARD OF DIRECTORS ESTABLISHES NEW TASK FORCES:

At the Board of Directors meeting in New Orleans on November 28th, the Board established five new task forces to replace the Coalition's original task forces. These task forces are action oriented and will cover various activities that will be particularly important to the Coalition in 1991. The new task forces are described below. Each group will be overseen by a member of the Board of Directors. Please let the Coalition staff know on which task force you would like to serve.

Mitigation and Mitigation Banking Task Force - Leighton Steward

Members will serve in an advisory capacity to the Coalition in the development of the Coalition's Mitigation and Mitigation Banking White Paper and in regard to mitigation issues in general, and will plan a mitigation banking workshop should the Coalition agree to coordinate such an event.

Legislative Task Force - Jim Keys

Members will develop proposed positions for the Coalition on Section 404 reform legislative initiatives, plan and execute the Coalition 's legislative strategy and coordinate the legislative efforts of the Washington representatives of Coalition members.

Administrative Issues Task Force - Jim Keys

Members will spearhead the Coalition's efforts regarding the DPC Wetlands Task Force and Federal agencies, and will coordinate Coalition responses to new or revised Executive Orders or proposed rulemakings.

Technical Task Force - Frank Walk

The membership will consist of Coalition members with expertise in engineering, biology, regulatory matters, etc., who will serve in an advisory capacity to the Coalition in the review and development of technical standards for Section 404 reform initiatives.

Membership and Finance Task Force - Damian Zamias

Members will develop a membership building strategy and recommend dues schedules for the Coalition. This group will be an extension of the current Finance Committee whose members are Leighton Steward, Damian Zamias and Ron Forman.

The next Board of Directors meeting is scheduled for February 5th in Washington, D.C. Please let a Board member or the Coalition staff know if you would like a specific issue discussed at the meeting.

COALITION MEMBERSHIP REACHES 53:

The following companies have recently joined the Coalition: Domingue, Szabo and Associates, an engineering firm located in Lafayette, Louisiana; the China Clay Producers Association, a kaolin clay producers association based in Atlanta, Georgia; Berry Brothers General Contracting, Inc., a contractors firm in Berwick, Louisiana; and Louisiana Resources Company, an intrastate gas pipeline based in Tulsa, Oklahoma. An updated membership list is attached.

Welcome to our new members!

This newsletter was prepared by Robert G. Szabo, Susan Tomasky and Marge Carrico of the law firm of Van Ness, Feldman and Curtis for The National Wetlands Coalition. Any questions or suggestions regarding the content may be directed to any of these individuals by calling (202) 298-1800.

US Army Corps
of Engineers
Office, Chief of Engineers

Regulatory Guidance Letter

No. 90-8 Date 14 DEC 90 Expires 31 DEC 93

CECW-OR

SUBJECT: Applicability of Section 404 to Pilings

1. The purpose of this Regulatory Guidance Letter (RGL) is to provide additional guidance on the applicability of section 404 to certain categories of projects constructed with pilings in waters of the United States. This RGL represents a clarification and revision to RGL 88-14, which addresses this same subject. Therefore, effective on the date of this RGL, RGL 88-14 is rescinded.

2. For some years, the Army Corps of Engineers, as a matter of policy, has taken the position that pilings do not ordinarily constitute fill material and that the placement of pilings do not ordinarily constitute a discharge of fill material under the Clean Water Act (CWA; see RGL 88-14). Under RGL 88-14, however, the Corps recognized that "in the situation where piles are used in a manner essentially equivalent to fill material in effect, purpose and function they should be treated as fill material under the section 404 program." Historically, pilings were generally used for traditional pile-supported structures such as docks and bridges where the effect, purpose, and function of the pilings were not to replace an aquatic area with dry land or to change the bottom elevation of a waterbody. More recently, however, circumstances have changed, with pilings being used as a substitute for fill material. That is, there is increasing reliance on construction methods involving the use of pilings in place of fill, often at additional cost, in order to avoid regulation under the CWA Section 404. The intent of this RGL is to clarify the application of requirements in the existing Corps regulations to these new circumstances involving the use of pilings in waters of the United States.

3. The Corps regulatory definitions of "fill material" and "discharge of fill material" (33 CFR 323.2 (e) and (f)) are clearly broad enough to capture the placement of pilings in waters of the United States as a discharge that could be regulated in certain specific circumstances. Projects involving pilings meet the definition of "fill" when they have the physical effect or functional use and effect of fill; that is, pilings may be regulated when they constitute the equivalent "of replacing an aquatic area with dry land or changing the bottom elevation of a waterbody." As was explained in RGL 88-14, pilings may have this function or effect when they are placed so as to facilitate sedimentation, or are placed so densely that they in effect

displace a substantial percentage of the water in the project area. In addition, pilings have the physical effect or functional use of fill, and will be regulated as fill, in circumstances where a structure is placed on top of the pilings in such a manner as to constitute the functional equivalent of fill; or where pilings are placed for the same basic purpose as fill; or where pilings have essentially the same effects as fill (i.e., replaces an aquatic area with dry land or changes the bottom elevation of a waterbody). Similarly, the placement of pilings in waters of the United States may, in certain specific circumstances, be regulated as a "discharge of fill material" under the current regulations.

4. Therefore, based on current regulations, the placement of pilings in waters of the United States will require authorization under section 404 when such placement is used in a manner essentially equivalent to a discharge of fill material in physical effect or functional use and effect. Examples include, but are not limited to, the following activities in waters of the United States:

a. PHYSICAL EFFECT OF FILL: Projects that in effect replace an aquatic area or change the bottom elevation of a waterbody as a result of the placement of pilings that are so closely spaced that sedimentation rates are increased or the pilings themselves essentially replace the bottom will be regulated under CWA Section 404. This circumstance would include pilings placed in waters of the United States for dams, dikes, other structures utilizing densely spaced pilings, or as a foundation for large structures.

b. FUNCTIONAL USE AND EFFECT OF FILL: Construction projects will be regulated under CWA Section 404 where pilings serve essentially the same functional use as a solid fill foundation, and where the project would result in essentially the same effects as fill (e.g., alter flow or circulation of the waters, bring the area into a new, non-aquatic use, or significantly alter or eliminate aquatic functions and values). Regulated activities include the placement of pilings to facilitate the construction of office and industrial developments, parking structures, restaurants, stores, hotels, multi-family housing projects, and similar structures in waters of the United States.

5. Placement of pilings in waters of the United States will, as in the past, not be regulated under section 404 in circumstances involving linear projects such as bridges, elevated walkways, or powerline structures, since pile-supported structures have

traditionally been used in these circumstances to cross waters of the United States, and have not substantially harmed or eliminated aquatic functions and values. Similarly, placement of pilings will not be regulated under section 404 in circumstances that involve structures that have traditionally been constructed on pilings; examples are piers, boathouses, wharves, marinas, lighthouses, and individual houses built on stilts solely to reduce the potential of flooding (e.g., beach houses where road access is on uplands, but the house may be located in a low area necessitating construction on stilts).

6. We believe that it is appropriate to regulate projects placed on pilings, as provided for in paragraph 4. above, because of the effect the projects have on the aquatic environment and because they are essentially equivalent to solid-fill supported projects in purpose, effect, and/or function. Moreover, we have noted an increasing incidence of cases where large-scale construction projects originally, and typically, designed to be built on fill material have been re-designed for pile supports solely for the purpose of evading section 404 regulation.

7. For any proposed pile-supported project where the proponent has relied on earlier Corps guidance to conclude reasonably that a project is not covered by section 404, and has committed substantial resources to the degree that it would be unreasonable and inequitable for the Corps to assert section 404 jurisdiction based on this RGL, the District should not assert section 404 jurisdiction. In cases where a project proponent has been provided a specific answer by the Corps, in writing, that a pile-supported structure will not require a section 404 permit, the District will not require a section 404 permit.

8. As with all determinations regarding whether a proposed activity requires a section 404 permit, the Corps is solely responsible for the decision.

9. This guidance expires 31 December 1993 unless sooner revised or rescinded.

FOR THE COMMANDER:

Patrick J. Kelly
PATRICK J. KELLY
Major General, USA
Director of Civil Works

United States Environmental Protection Agency
Office of Water
Office of Enforcement
Washington, D.C. 20460

United States Department of the Army
Office of the Assistant Secretary
Washington, D.C. 20310-0103

12 DEC 1990

MEMORANDUM

SUBJECT: Wetlands Enforcement Initiative

FROM: James M. Strock
Assistant Administrator
for Enforcement

LaJuana S. Wilcher
Assistant Administrator
for Water
LaJuana S. Wilcher

G. Edward Dickey
Acting Assistant Secretary of the Army
(Civil Works)

TO: Regional Administrators
Director of Civil Works

We are seeking the participation of EPA Regions and Corps Districts in an enforcement initiative to protect wetlands. The Wetlands Enforcement Initiative is designed to emphasize the Federal government's commitment to Clean Water Act Section 404 enforcement, to generally educate the regulated community and the public at large about the requirements of the Section 404 program and the importance of wetlands, and to publicize Clean Water Act violations involving the unauthorized discharge of dredged or fill material. EPA and the Department of the Army have placed high priority on protecting this Nation's wetlands and recognize that an active Section 404 enforcement program is one important wetlands protection tool.

The Wetlands Enforcement Initiative will be similar to EPA's FY 89 municipal pretreatment enforcement initiative under the Clean Water Act. That initiative concluded with the filing of several important cases and a major Agency press release and press conference. We are proposing to publicize the Wetlands Enforcement Initiative in two phases. The first "wave" of publicity is planned for April 1991. It will announce the Initiative and highlight appropriate Section 404 enforcement actions initiated or resolved over the previous 12 months. We also hope to file a "cluster" of Section 404 cases at that time.

if such a filing does not unduly interfere with the normal flow of cases.

By alerting the regulated community, as well as the general public, to the Federal government's commitment to Section 404 enforcement, this Spring announcement is also intended to provide an early deterrent to potential violations which might otherwise occur during the 1991 Spring and Summer construction season. The second "wave" of publicity is scheduled for October 1991 and will highlight appropriate Section 404 enforcement actions initiated or resolved during FY91, including cases resulting from investigations conducted during the Spring field season. We also hope to have a second "cluster" filing at that time. Each announcement will consist of a joint EPA/Army/Department of Justice (DOJ) press release and press conference. In the press release, we will acknowledge Section 404 administrative compliance orders, cease and desist orders, administrative penalty orders and judicial cases initiated or resolved by the Regions and Districts during the covered time period. At the press conferences, we will highlight those administrative and judicial cases that best serve to illustrate the Initiative's goals.

The Wetlands Enforcement Initiative will include cases involving both unpermitted discharges of dredged or fill material into wetlands and discharges in violation of the conditions in a Section 404 permit. Regions and Districts will have flexibility to decide which enforcement actions are most appropriate to support the Initiative. In making enforcement decisions, Regions and Districts should consider: The "EPA/Army Guidance on Judicial Civil and Criminal Enforcement Priorities;" the "Clean Water Act Section 404 Civil Administrative Penalty Settlement Guidance and Appendices;" the Clean Water Act Section 404 Enforcement Memorandum of Agreement; and the additional guidance discussed below, and should focus on the most significant violators/violations in each of the Regions or Districts.

While this Initiative focuses on wetlands protection, Section 404 enforcement actions involving unpermitted discharges and violations of 404 permit conditions to other waters of the United States can be included. We suggest, however, that, where possible, the Regions and Districts focus on enforcement actions which have one or more of the following elements:

- a discharge into a wetland that is identified on the Region's Priority Wetland List or is an important and/or threatened area in the Region or District;

- a case which will have high deterrence value in the Region, District or Nation, e.g., a particular industry, business or land development entity which engaged in unauthorized discharges of dredged or fill material.

- a discharge by a repeat or flagran violator, e.g., someone who engaged in an unauthorized discharge activity after being denied a Section 404 permit or withdrawing a permit application for such activity.

The above list is not intended to exclude oth s of importance.

As noted above, the Wetlands Enforcemen ve will consist of cease and desist orders, adminis pliance orders, administrative penalty actions and al referrals. In addition, appropriate crimina which have been approved in accordance with each agency's s for criminal referrals, may also be included in th erent announcements. Because Regions and Districts procedures in initiating enforcement responses ovided two separate schedules for implementing this In

EPA Regions

We propose that the Regions issue Section 3C administrative compliance orders and Section 309(administrative penalty complaints on the schedule below. Administrative compliance orders and admin penalty orders are not subject to Headquarters conc with the exception of those Regions that have not fulfil Headquarters concurrence requirements concerning the number of Section 309(g) complaints and consent agre Headquarters will review Section 309(g) complaints an agreements, however, for the purpose of determining wh n orders should be highlighted in Initiative press activit

We ask that the Regions submit case referrals by no than February 15, 1991, for the April announcement and by 1, 1991 for the October 1991 announcement. We do not intend however, to delay the processing of referrals submitted earlie Each Region should submit one or more civil judicial referrals and should also issue administrative compliance orders and administrative penalty orders as appropriate. After receipt o the referral packages, the Regions, Headquarters and DOJ, in consultation with the Army, will decide if suits should be f simultaneously or in some other coordinated manner, as indic in the following schedule:

1. Headquarters/Regional conference calls to discuss Call Letter.	Dec.
2. Regions submit to Headquarters a list and brief description and schedule for candidate enforcement actions.	Jan.

3. Headquarters/Regional conference call to discuss candidate cases and confirm schedules for candidate enforcement actions. Jan. 22, 1991

4. Deadline for Regions to submit referrals to Headquarters for April filing. Feb. 15, 1991

5. Deadline for Regions to issue administrative compliance orders, administrative consent orders and administrative penalty complaints (copies of issued compliance orders, consent orders and administrative penalty complaints should be supplied to Headquarters after issuance). Mar. 23, 1991

6. Headquarters completes coordination of national communications strategy with Regions, Army and DOJ for April announcement. April 1, 1991

7. Likely judicial case filing dates. April 23, 1991

8. Joint press release and/or joint press conference held. April 23, 1991

9. Regions submit to Headquarters a list and brief description and schedule for candidate enforcement actions for October announcement. June 14, 1991

10. Headquarters coordinates with Regions and confirms schedules for candidate enforcement actions. July 1, 1991

11. Deadline for Regions to submit civil judicial referrals to Headquarters for October filing. Aug. 1, 1991

12. Deadline for Regions to issue administrative compliance orders, administrative consent orders and administrative penalty complaints (copies of issued compliance and consent orders and administrative penalty complaints should be supplied to Headquarters after issuance). Sept. 13, 1991

13. Headquarters completes coordination of national communications strategy with Regions, Corps and DOJ for October announcement. Sept. 20, 1991

14. Likely judicial case filing date. Oct. 15, 1991

15. Joint press release and/or joint press conference held. Oct. 15, 1991

We request that each Region complete the attached form on cases that are candidates for inclusion in the Wetlands Enforcement Initiative, and submit the forms to Hazel Groman of the Office of Wetlands Protection and Elyse DiBiagio-Wood of the Office of Enforcement by January 8, 1991 or June 14, 1991, as appropriate. Headquarters staff assigned to the Initiative and available to answer questions include Hazel Groman, OWP, FTS 475-8798, and Elyse DiBiagio-Wood, OE-Water, FTS 475-8187.

Corps Districts

Unlike EPA, Corps Headquarters will not participate in the decision as to which suits should be filed. The Initiative is not intended to affect ongoing Corps enforcement activities. Districts should continue to employ all enforcement options, as discussed in the attached joint guidance letter. For purposes of the Initiative, however, we ask that each District submit two planned or pending enforcement actions for each phase of the Initiative which, in the District's opinion, target particularly egregious violations. We will then decide which cases are proper candidates to be publicized at the joint press conference. The Districts should submit their actions in accordance with the following schedule:

1. Districts submit to Headquarters two planned or pending enforcement actions to be included in the April announcement. Feb. 4, 1991

2. Headquarters coordinates with Districts and confirms schedules for enforcement actions. March 5, 1991

3. Headquarters completes coordination of national communications strategy with EPA and DOJ. April 1, 1991

4. Joint press release and/or joint press conference. April 23, 1991

5. Districts submit to Headquarters two planned or pending enforcement actions to be included in the October announcement. July 2, 1991

6. Headquarters coordinates with Districts and confirms schedules for enforcement actions. Aug. 20, 1991

7. Headquarters completes coordination of national communications strategy with EPA and DOJ. Sept. 20, 1991

8. Joint press release and/or joint press

conference.

We request that each District complete the attached form on cases that it believes should be publicized in the Enforcement Initiative, and submit the form, in duplicate, to Jack Chowning, HQUSACE, CECW-OR by February 4, 1991 and July 2, 1991. Headquarters staff available to answer questions regarding the Initiative include Jack Chowning, 272-1781, and Martin Cohen, HQUSACE, CECC-K, 272-0027.

We realize that the above schedule will require a large effort by Regional and District offices. However, we believe that the Initiative is critical to the priority goal of the agencies to protect wetlands, and greatly appreciate your continued support of the Initiative. We will make Headquarters personnel available to assist the Regions and Districts.

Attachment

cc: Regional Counsels
    Directors, Water Mgmt Div., Regs.I, II, IV, V, VIII, IX and X
    Directors, Env'l Services Div., Regs. III and VI
    Ass,t Regional Administrator, Policy and Management, Reg. VII
    Margaret Strand, Chief, Environmental Defense Sec., DOJ
    John Studt, Chief, Regulatory Branch, COE
    Pat Alberico, OCE
    Fred Stiehl, GE-Water
    Dave Davis, OWP
    Martin Cohen, Assistant Chief Counsel for Litigation, Office of the Chief Counsel, USACE

WETLANDS ENFORCEMENT INITIATIVE REPORT*

1. Name of alleged violator(s):

2. Location:

3. Description of violation; project of which it is part; and resultant harm:

4. Describe the reasons for Regional/District selection of case:

5. Does the enforcement action require time sensitive relief, such as injunctive relief affected by seasonal constraints? Explain:

6. Is a repeat or flagrant violator involved?

7. Communication among EPA, Corps, FWS or State agency:

8. Date(s) of inspection, and agencies conducting inspections:

9. Other contact between EPA or Corps and alleged violator (e.g., warning letter, notice of violation, prior enforcement action, application for "after-the-fact" permit, settlement negotiation):

10. Proposed enforcement response (e.g., AO, civil referral, criminal referral); proposed date for action; and relief sought:

ATTACH ADDITIONAL PAGES, IF APPROPRIATE, TO RESPOND TO ANY OF THE ABOVE QUESTIONS.

*Please note that a separate report should be prepared for each candidate enforcement action.

United States Environmental Protection Agency

United States Department of the Army

GUIDANCE ON JUDICIAL CIVIL AND CRIMINAL ENFORCEMENT PRIORITIES

BACKGROUND

This document provides guidance to the Environmental Protection Agency (EPA) Regions and Army Corps of Engineers Districts on enforcement priorities for unauthorized discharges of dredged or fill material in waters of the United States in violation of section 301 of the Clean Water Act (CWA). Unauthorized discharges include both discharges that are unpermitted and discharges that violate permit terms or conditions. The guidance enumerates factors enforcement personnel should consider when deciding whether to refer a case for judicial action. By providing this guidance, EPA and the Army intend to encourage consistency in the manner in which we enforce the CWA's requirements nationally, protect the integrity of the section 404 regulatory program, and direct limited program resources in a manner that produces the most beneficial environmental results.

Options to address CWA violations include: no action, voluntary compliance, cease and desist orders, EPA administrative compliance orders, interim measures designed to protect the aquatic ecosystem from further damage, after-the-fact permits, administrative penalty orders, and civil and criminal judicial actions. This guidance discusses priorities for civil and criminal judicial actions only. By defining priorities for judicial actions, EPA and the Army do not intend to suggest that the agencies limit their use of these or any other enforcement options. In fact, the agencies should continue the use of all enforcement options whether in conjunction with or instead of civil and criminal proceedings.

CIVIL AND CRIMINAL ENFORCEMENT PRIORITIES

A. *Civil judicial cases*

Decisions on whether to refer a civil action to the Department of Justice must be on a case-by-case basis, and the absence or presence of one or more of the following factors should not necessarily dictate a decision regarding a particular case. Nevertheless, enforcement personnel should consider the following factors when deciding whether to refer a civil action:

1. Quality of the waters affected. Enforcement personnel should determine, to the

extent practicable, what functions and values the waters performed prior to the unauthorized discharge. Regions and Districts should give priority to violations that affect wetlands and other special aquatic sites.

2. Impact of the discharge. Enforcement personnel should determine, to the extent practicable, the amount and content of the discharge, the number of acres affected by the discharge, and the discharge's direct and indirect effects. Priority should be given to those discharges that have an especially deleterious effect on wetlands functions or values, that affect a large area of wetlands or other waters, or that are widespread and have significant cumulative effects. These would include unauthorized discharges with significant adverse effects on aquatic ecosystem diversity, productivity, and stability such as loss of fish or wildlife habitat or loss of the capacity of a wetland to assimilate nutrients, purify water, or reduce wave energy. Judicial enforcement action would normally be appropriate, for example, for unauthorized discharges that cause or contribute to violations of state water quality standards; violate any applicable toxic effluent standard or prohibition under Section 307 of the CWA; or jeopardize endangered or threatened species and their designated critical habitat. Judicial enforcement action should be considered for any case where unauthorized discharges did or may cause or contribute to significant adverse environmental impacts.

3. Culpability of violator. Enforcement personnel should consider the violator's prior compliance history when determining what type of enforcement action is appropriate. Priority should be given to violators with a history of noncompliance and those who commit knowing violations. The violator's experience with the program and whether he or she had been the subject of previous enforcement actions are considerations. In general, repeat violators warrant judicial action, regardless of whether the violations occurred on the same site or on different sites. Repeat violations, however, are not a prerequisite for referring a civil case to the Department of Justice.

4. Deterrence value. Enforcement personnel should consider the extent to which the violation is flagrant, visible, and well-publicized. If there are a number of violations within a particular geographic area or industry, civil judicial action against one or more of the violators can provide excellent deterrence. The agencies should refer for civil action a case against any violator whose actions, if left unpunished, would have the effect of jeopardizing the integrity of the section 404 program in the area where the violation occurred.

5. Benefit from the violation. Enforcement personnel should consider the economic benefit a violator derived from the unauthorized discharge. Because administrative penalties are limited, when a violator has obtained a significant economic benefit from the discharge, a civil judicial action may be the only enforcement option that can effectively recover that benefit.

6. Equitable considerations. In addition to the above five factors, the Regions and Districts will want to anticipate and evaluate the strength of any equitable considerations likely to be raised by potential defendants. Priority should be given to recent and ongoing violations. Regions and Districts should also take into account, as appropriate, when the Region and/or District learned of the violation, and whether timely administrative attempts to achieve compliance were unsuccessful and a civil referral is the only available means to obtain needed injunctive relief.

Another equitable consideration is whether the violator received misinformation from the federal government as to whether the discharge required a section 404 permit. Based on existing case law, the federal government can only rarely and in very limited circumstances be barred from enforcing its laws. At the same time, an important goal of federal enforcement, including section 404 enforcement, is fair and equitable treatment of the regulated community. As a result, the Regions and Districts will need to carefully consider the appropriateness of initiating a civil suit in cases where the violator may have reasonably relied on a federal official's misrepresentations regarding the need for a section 404 permit. This includes situations where the violator was led to believe that the activity did not constitute a discharge, that the discharge did not take place in waters of the United States, or that a general permit covered the discharge. When determining whether the violator's reliance was reasonable, enforcement personnel should assess such factors as whether the misrepresentations were made by EPA or the Corps, the two federal agencies charged with implementing the section 404 program, or another federal agency; whether the misrepresentations were communicated to the violator in writing or were merely oral statements; the extent of the violator's familiarity with the section 404 program; and whether the violator knew, should have known, or with reasonable diligence could have determined, that the representations were erroneous.

The first two factors listed above center upon the environmental effects of the violation. Special attention should be paid both to violations that damage large areas of wetlands and those that impair valuable wetlands, no matter what their size. The next three factors are intended to protect the integrity of the section 404 program by focusing enforcement priorities first on individuals or violations which show disdain for the law and on those who seek to benefit from circumvention of the law.

B. *Criminal cases*

With regard to the discharge of dredged or fill material, section 309(c) of the CWA provides criminal penalties for four separate offenses. First, anyone who negligently violates section 301 (e.g., engaging in unauthorized discharges) or who negligently violates the requirements of a section 404 permit may be criminally liable. Second, anyone who knowingly violates section 301 or the requirements of a section 404 permit may also be subject to criminal liability. Third, any person who violates section 301 or the conditions of a section 404 permit and, in doing so, knowingly endangers another person may be subject to criminal penalties. Finally, section 309(c) provides criminal sanctions for persons who knowingly make false material statements regarding a section 404 permit.

In some instances a violation will involve circumstances which indicate that a criminal prosecution may be in order. Such circumstances should be underscored when the case is referred to the Department of Justice. Ultimately, Justice must exercise its discretion as to whether or not to proceed criminally in any case. If there is a possibility of criminal prosecution, field personnel should pay special attention to evidentiary matters such as sample preservation, content of statements to and from any potential defendant, good photographs, and chain of custody.

This document provides internal guidance for field personnel regarding the exercise of their enforcement discretion. Accordingly, this document creates no rights in third parties.

For the Environmental Protection Agency:

for Suzanne E. Schwartz 12/7/90
DAVID G. DAVIS Date
Director
Office of Wetlands Protection

Frederick F. Stiehl 12-10-90
FREDERICK F. STIEHL Date
Associate Enforcement
Counsel for Water

For the Chief of Engineers:

J.P. Elmore 12/12/90
JOHN P. ELMORE Date
Chief, Operations, Construction,
and Readiness Division
Directorate of Civil Works

MEMBERSHIP
THE NATIONAL WETLANDS COALITION

JANUARY 18, 1991

ALLEGHENY POWER SYSTEM, INC.
AMAX, INC.
AMOCO PRODUCTION CO.
ARCO ALASKA
ARCTIC SLOPE REGIONAL CORPORATION
AUDUBON INSTITUTE
BERRY BROS. GENERAL CONTRACTORS, INC.
BERING STRAITS NATIVE CORPORATION
BP AMERICA
JOHN E. CHANCE & ASSOC., INC.
CHINA CLAY PRODUCERS ASSOCIATION
CITY OF LOS ANGELES
CONOCO INC.
DENVER WATER DEPARTMENT
DOMINGUE, SZABO & ASSOCIATES
ENRON CORPORATION
ENTERGY CORPORATION
EXXON COMPANY, U.S.A.
FINA OIL & CHEMICAL COMPANY
FIRST COMMERCE CORPORATION
FREEPORT-MCMORAN INC.
GREAT LAKES GAS TRANSMISSION COMPANY
HUNT OIL COMPANY
KERR-MCGEE CORPORATION
LOUISIANA LANDOWNERS ASSOCIATION, INC.
LOUISIANA NATURE AND SCIENCE CENTER
LOUISIANA RESOURCES COMPANY
MARATHON OIL COMPANY
MOBIL EXPLORATION & PRODUCING, U.S. INC.
NANA REGIONAL CORPORATION
NATIONAL FUEL GAS COMPANY
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PHILLIPS PETROLEUM COMPANY
PORT OF NEW ORLEANS
RESOURCE SERVICES NORTH, INC.
SHELL OIL COMPANY
SONAT INC.
SOUTH FLORIDA COALITION
SOUTHERN COMPANY
SUN COMPANY
TENNECO GAS
THE KOLL COMPANY
THE LOUISIANA LAND AND EXPLORATION COMPANY
THE ZAMIAS GROUP
TEXACO USA
TRANSCO ENERGY COMPANY
UNOCAL CORPORATION
WALK, HAYDEL AND ASSOCIATES, INC.
WILMORITE, INC.

ESG
ENTERPRISES, INC.

4164 VIRGINIA BEACH BLVD., SUITE 200
VIRGINIA BEACH, VA. 23452
(804) 340-1616

February 6, 1991

VIA TELE-FAX (202) 226-1170

The Honorable Norman Sisisky
426 Cannon Building
Washington, D.C. 20515

Re: Small Business Committee
February 6, 1991
2359 Rayburn Building
Wetlands Hearings

Dear Congressman Sisisky:

As you well know, the Tidewater, Virginia area has been severely impacted by the Army Corps of Engineers and EPA's sudden and unannounced assertion of jurisdiction over non-tidal wetlands.

As a developer and small business owner, I have been financially devastated by this drastic change in regulatory policy and feel that the Small Business Committee should be made aware of the impact that the present Federal Regulatory Agencies' policies is having on the small business community.

In 1984, approximately five years before the Federal Regulatory Agencies adopted the new wetlands delineation manual and subsequent agreements, The ESG Companies began assembling 922 acres of land at a cost of $20,000,000.00 in the city of Chesapeake, Virginia with the express purpose of developing a self-contained community consisting of businesses, commercial centers, retirement and nursing facilities and a broad spectrum of residential units.

The 922 acre site was typical in character, elevation, topography, soil types, vegetation and hydrology to that which have been developed in the same area for the past 20 years without regulatory intervention.

Notwithstanding that The E.S.G. Companies has been in the site acquisition, planning and pre-development stages for five years at a cost expenditure of approximately $20,000,000.00 and is now ready to proceed into the construction phase, this project has been stopped because of the new enforcement policies of the United States Army Corps of Engineers and Environmental Protection Agency (based upon alleged jurisdiction under Section 404 of the Clean Water Act). Notwithstanding that during the preceding four years this project received widespread publicity and that numerous public hearings were conducted prior to the unanimous rezoning approval of the Chesapeake City Council on March 21, 1989, it was not until Julie C. Steele, Chief Waterways Inspection Section of Norfolk District Corps of Engineers, wrote asserting that areas of jurisdictional wetlands might exist on this property that the project was halted. The Corps was asserting that large areas of isolated palustrine forested broadleaved deciduous seasonal saturated wetlands were located on the property. Prior to 1989, while the project was being planned and approved, the Army Corps of Engineers was not asserting jurisdiction over these types of alleged wetlands. The Corps began asserting jurisdiction over these types of wetlands in late 1988 and early 1989, notwithstanding, that the jurisdictional definition of wetlands contained in the Corps Regulations at 33 C.F.R. Section 328.3(b) has not changed and has remained the same since 1977. ESG was shocked to learn that even though the regulations upon which they relied had not changed, the abrupt policy change by the Corps and EPA resulted in an assertion of jurisdiction over ESG property and, therefore, the project was stopped.

It is patently unfair that the Army Corps of Engineers and EPA, by changing its policy, can assert jurisdiction over the ESG property under definitions of "wetlands" and "waters of the United States" which have not changed during the planning, site acquisition and rezoning of the property. This sudden assertion of jurisdiction of cleared agricultural lands, drier forested wetland areas or "wetwoods" in the definition of the waters of the U.S. has sent the development community into a state of confusion and frustration and stopped numerous projects which were underway.

Policy changes of this magnitude, if essential to the Clean Water Act, should be revisited, phased in and an adequate transition period provided to the public to allow time to prepare for such sweeping changes. Policy changes by the Army Corps of Engineers and the EPA should not have the effect of depriving landowners and developers like ESG, whose projects were ongoing at the time, of a vested right to complete their project. The Army Corps and EPA should reconsider its present jurisdictional definition and provide some type of transition period to landowners and developers who had made substantial advancements toward the development of their projects and had reasonable investment-backed expectations. If left to remain as is, the misimplementation of George Bush's "no net loss wetlands" policy by the Federal Regulartory Agencies is destined to result in financial devastion to landowners, banks and muncipalities including loss of jobs, affordable housing and degradation of the local tax base. There should be provided a window of opportunity for developments, like ESG's, that were ongoing at the time the Army Corps and EPA shifted their definition of jurisdiction under the Clean Water Act.

The following may be considered as a means to provide equitable relief to those land owners, financial institutions and local government bodies that are now, and will continue to be in the future, adversely impacted unless immediate transitional relief is granted. The federal regulatory agencies should strongly consider modifying their existing enforcement policies to include a transitional period that would exclude from jurisdictional enforcement action, those projects that have complied with the following criteria, for at least the one year period prior to implementation of the revised interpretational guidelines that where put into place as of January 1989.

Criteria for Transitional Lands:

1. Land which was acquired before October 13, 1988, by an ongoing business enterprise in its usual and customary course of business, for the specific purpose of development of such land, into residential and/or commercial business communities which would result in providing affordable housing, the creation of employment and which would promote substantial economic benefit and expansion of local governmental tax base in the local community.

2. Those projects in which financing, land planning, engineering, necessary zoning and local governmental approvals were substantially in process or had been completed on or before January 1, 1989.

3. Those projects in which the land encompassing the project is typical of other lands, contiguous with and/or in the immediate vicinity of the project, i.e., with respect to elevation, topography, soil types and vegetation, that have been previously developed with residential and/or commercial development.

If the above suggested transitional provisions can be incorporated into existing policies, it would provide substantial equitable relief for those who are severely and disproportionately impacted, while preserving the long term goals and objectives of the current policies of the Clean Water Act.

Your continued cooperation and assistance in this critical situation is sincerely appreciated.

With kind personal regards, I remain,

Very truly yours,

Edward S. Garcia

ESG/laf

BUTTE COUNTY MOSQUITO ABATEMENT DISTRICT

DISTRICT OFFICE AT
N. E. CORNER OF OROVILLE AIRPORT
ON LARKIN ROAD
PHONE (916) [illegible]
[illegible]

5117 LARKIN ROAD
OROVILLE, CALIFORNIA 95965

WILLIAM E. HAZELTINE, PH.D.
MANAGER - ENVIRONMENTALIST

RECEIVED
MAR 12 1991
Committee on Small Business

February 21, 1991

Committee on Small Business
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

When available, I would appreciate receiving a copy of the transcript of your recent hearings on the effects of wetland protection measures on the small business community.

Enclosed for your files is a paper I presented to the Western Wetlands Conference. This paper points out the serious health impacts which wetlands can cause.

Thank you for your courtesy in providing the requested hearing record.

Sincerely,

William E. Haseltine, Ph.D.,R.P.E.
Manager - Environmentalist

WEH/km

Enclosure

cc: Congressman Wally Herger

BUDGET PROPOSALS

Committee on the Budget: Held a hearing on the Administration's fiscal year 1992 budget proposals. Testimony was heard from Richard G. Darman, Director, OMB.

Hearings continue tomorrow.

COMMITTEE ORGANIZATION

Committee on the District of Columbia: Met for organizational purposes.

BUDGET REQUEST; OPERATION DESERT STORM

Committee on Foreign Affairs: Held a hearing on the President's fiscal year 1992 Budget request for International Affairs and Update on Diplomatic Initiatives pursuant to Operation Desert Storm. Testimony was heard from James A. Baker III, Secretary of State.

COMMITTEE ORGANIZATION

Committee on Interior and Insular Affairs: Met for organizational purposes.

COMMITTEE ORGANIZATION

Committee on Merchant Marine and Fisheries: Met for organizational purposes.

COMMITTEE ORGANIZATION

Committee on Post Office and Civil Service: Met for organizational purposes.

AIRLINE INDUSTRY—FINANCIAL CONDITION

Committee on Public Works and Transportation: Subcommittee on Aviation concluded hearings on the Financial Condition of the Airline Industry and the Adequacy of Competition. Testimony was heard from Representative Dorgan of North Dakota; Kenneth M. Mead, Director, Transportation Issues Resources, Community and Economic Division, GAO; and public witnesses.

WETLANDS PROTECTION MEASURES

Committee on Small Business: Concluded hearings on the effects of wetlands protection measures on the small business community. Testimony was heard from public witnesses.

UNEMPLOYMENT INSURANCE

Committee on Ways and Means: Subcommittee on Human Resources held a hearing on unemployment insurance and the recession. Testimony was heard from the following officials of the Department of Labor: Mary Ann Wyrsch, Director, Unemployment Insurance Service, Employment and Training Administration; and John E. Bregger, Assistant Commissioner, Office of Current Employment Analysis, Bureau of Labor Statistics; and public witnesses.

Hearings continue February 20.

REVIEW ISSUANCE OF FEDERAL BENEFIT CHECKS

Committee on Ways and Means: Subcommittee on Oversight held a hearing to review the issuance of Federal benefit checks to deceased beneficiaries. Testimony was heard from Lawrence Thompson, Assistant Comptroller General, Human Resources Division, GAO: Louis D. Enoff, Deputy Commissioner, Programs, SAA, Department of Health and Human Services; Bill Pearson, Deputy Chief Benefits Director, Department of Veterans Affairs; Curtis J. Smith, Associate Director, Retirement and Insurance, OPM; Shelby Hallmark, Deputy Director, Office of Workers' Programs, Department of Labor; Glen L. Bower, Chairman, Railroad Retirement Board; Albert V. Conte, Director, Defense, Finance and Accounting Services, Department of Defense; and a public witness.

NATIONAL DRUG CONTROL STRATEGY

Select Committee on Narcotics Abuse and Control: Held a hearing on the National Drug Control Strategy. Testimony was heard from John P. Walters, Acting Director, Office of National Drug Control Policy.

Joint Meetings

SOVIET UNION

Commission on Security and Cooperation in Europe (Helsinki Commission): Commission concluded hearings to examine recent events and trends in the Soviet Union, focusing on the prospects of democratization, economic reform and glasnost, after receiving testimony from Zbigniew Brzezinski, Center for Strategic and International Studies, former National Security Adviser to President Carter, Washington, D.C.; Marshall L. Goldman, Wellesley College, Wellesley, Massachusetts; and Lt. Gen. William Odom, USA (Ret.), Hudson Institute, former Director, National Security Agency, Indianapolis, Indiana.

COMMITTEE MEETINGS FOR THURSDAY, FEBRUARY 7, 1991

(Committee meetings are open unless otherwise indicated)

Senate

Committee on Agriculture, Nutrition, and Forestry, to hold hearings on S. 207, to provide funds for and to enhance the effectiveness of the Commodity Futures Trading Commission, 9 a.m., SD–G–50.

Committee on Energy and Natural Resources, to resume hearings on S. 244, providing for a referendum on the political status of Puerto Rico, 9:30 a.m., SD–366.

Committee on Environment and Public Works, Subcommittee on Water Resources, Transportation, and Infrastructure, to hold hearings to examine transportation demand as related to demographic trends, 10 a.m., SD–406.

2/15/91

The Untold Story of the Public Health Risks of Wetlands: Is the Nostalgia Nonsense?

William Hazeltine Ph.D.,R.P.E.
Manager - Environmentalist
Butte County Mosquito Abatement
Oroville, CA 95965

There is a dark side to the wetlands issue. That dark side is the high risk of human diseases which can occur as a direct result of the creation or maintenance of wetlands. In order to reduce this risk, intensive management is required in most circumstances, and there are times and places were creating or maintaining a wetland is simply ill-advised.

Today, I want to consider the magnitude of the health risks and how these risks relate to the responsibility and liability of the landowners, creators or managers of wetlands.

I begin with the assumptions that (1) man is an integral part of any natural system, and human needs must be considered in decision making, and (2) that humans are preeminent to any other species of organism, in any final judgement on priorities. These assumptions are consistent with the National Environmental Policy Act or NEPA.

While there are other disease vectoring species of animals associated with wetlands, mosquitoes are the most common. A vector is an animal capable of transmitting a disease causing agent from one host to another. Mosquitoes and wetlands usually go together, and one biological definition of a functional wetland is "a place where water stands long enough to produce two consecutive broods of mosquitoes."

Not all mosquitoes produced in a wetland vector diseases. Those that can and do transmit disease causing organisms are of greater concern to those of us who are charged with protecting people's health, even though we consider the dis-ease caused by nuisance species as important.

The major types of mosquito vectored diseases, which are of concern in California, are malaria and viral encephalitis. Both of these diseases require an efficient mosquito vector, presence of the disease causing organisms and suitable, susceptible hosts. At the risk of over-simplifying for some of you, it is necessary to understand these disease cycles, in order to understand why we consider wetlands as a major risk to human health.

Disease Cycles

Malaria is caused by a protozoan parasite which requires alternate passage through a mosquito, and then through a vertebrate host species, except when transmitted by blood transfusion. There are specific stages which occur in each host, but once present in a person or other primate, the parasites can remain infective for prolonged periods, or gradually decline and die out. Having malaria confers no immunity, and this disease can be contracted repeatedly.

Control of malaria is usually achieved by control of the mosquito vectors, or by anti-malarial drugs in humans, or both. The present estimate of malaria, worldwide, is about 400 million cases a year with a 1% or more death rate or 4 million or more deaths a year. Most of these cases are in third world Countries, and it is the worst of the child killing diseases.

Modified following presentation to Western Wetlands Conference.
San Francisco, CA 2/11/91

Western Equine Encephalitis (WEE) and St. Louis Encephalitis (SLE) are virus diseases occasionally found in the Western U.S.. The normal cycle is begun by a capable vector mosquito feeding on a viremic (actually sick) host. As the blood meal is digested, the virus multiplies in the mosquito's tissues, and moves to the salivary glands where it can be injected with the anti-coagulant saliva during the next blood meal. In a susceptible host, there may be an acute disease phase, and then antibodies are typically produced which confer a measure of protection from future exposure to that specific virus type. Migratory birds are considered to be a common vehicle for virus transport into an area, and birds are a major endemic or natural cycle host for WEE and SLE. Migratory birds are a natural transport and endemic cycle host, because they come into and then live around the wetland environment where the host mosquitoes are produced.

I will not burden your with the scientific names of particular kinds of mosquitoes, unless it seems appropriate, but recognize that more than one species of mosquito and many kinds of migratory birds can be involved in encephalitis cycles. Jack Rabbits and a flood water mosquito create a second endemic disease cycle. However, Bird-feeding mosquito species are more likely to be the vector to carry the virus to man or horses, in an epidemic condition.

The usual cycle for WEE and SLE is between birds or rabbits and mosquitoes, with man and other animals considered to be "incidental" hosts. As the numbers of viremic mosquitoes increase, the risk of feeding on and transmitting the virus to people goes up. The proximity of the infected mosquitoes to humans is also a factor in the increased risk of transmission.

The migratory bird and mosquito relationship occurs with other species of mosquitoes and other viruses, in other areas of the Country. One example is Eastern Equine Encephalitis (EEE) along the Northeastern coastal tide lands, and salt-water marshes and forests.

History of Malaria in the Sacramento Valley

In the days before gold was discovered in California, the Central Valley as well as what is now the San Francisco Bay Delta repeatedly flooded, and large areas were wetlands.

Historians set the date of Spring, 1830 as the time when fur trappers from Oregon came into California with malaria parasites in their blood. The Native Americans were hunting where the winter floods had forced game onto the Sutter Buttes near Marysville. The trappers moved south, continuing to spread the disease after the prevalent local mosquitoes had picked up the parasites. When the trappers returned going north in the Fall, estimates of 25% to 90% are given for the numbers of Native Americans in this area that had died from malaria.

The epidemic conditions existed because the parasite, the right vector and a susceptible population of people were all in the same place at the same time.

During the gold rush days of California, locally transmitted malaria was a major cause of illness and death. The occurrence and increase of malaria mosquitoes was a result of natural wetlands in the valleys of California, as well as the breeding areas created by water diversions and ditches in the foothills, which were part of the California gold rush scene. Miners worked and lived with the *Anopheles* mosquitoes, which thrive in the kinds of environment the miners created. The "ague" was a local name for malaria.

"Fevers of unknown origin" were also present, and were probably due in part to viral encephalitis.

With the draining of wetlands, creation of flood control systems, good mosquito control and modern drugs, malaria has been largely eliminated in most of California. Occasional outbreaks have occurred, such as in 1952, when a veteran of the Korean war had a malaria relapse during a July 4th weekend campout in an area near a Girl Scout camp in Nevada County. The right mosquitoes were also present, probably having come from Beaver ponds and shaded pools in a nearby stream. Thirty-two cases were documented from this one parasite source.

San Diego County has reported cases of malaria occurring repeatedly over the past few years, as workers from Mexico bring in the parasites and live in areas where the right kind of mosquitoes are present to transmit the disease agent to other workers living in the same area. Most of these cases occur in streambeds where these workers live in make shift shelters, and where effective vector mosquitoes can breed.

There have also been occasional, recent, locally transmitted cases of malaria in the Central Valley and Foothills of Northern California which remind health care professionals of the continued risks. Shaded woodland pools such as beaver ponds are increasing in our area, and the better vectors of malaria thrive in this kind of habitat.

The last locally transmitted malaria case reported in our County was very near an area where the California Department of Water Resources people were trying to clean a flood control channel, but they actually created a worse mosquito breeding problem when they followed the State Fish and Game requirements on making potholes in this channel.

So the risk of malaria goes up as wetlands such as shaded woodland pools are allowed and even encouraged, as part of planned urban development in and around many Cities in California.

Encephalitis

Western and St. Louis encephalitis used to be common in California, before the start of modern mosquito control. Efficient control has depended on chemicals, as well as water source management which includes natural controls or even water elimination. From a health view point, it makes more sense to control or eliminate mosquito breeding than to try to kill the flying mosquito adults after they have emerged and left these water sources.

The California incidence of human mosquito transmitted encephalitis shows a decline and then a recent increase.

1950-1959	938 human cases,	27 deaths
1960-1969	143 human cases,	2 deaths
1970-1979	28 human cases,	no deaths
1980-1989	72 human cases,	1 death

During the last decade alone (1980-1989) there were 26 and 28 cases of human disease confirmed in just two of these years. One year the cases were in the Long Beach area, and the most recent episode was in the Southern San Joaquin Valley. The Long Beach cases were thought to be associated with urban mosquito sources and the presence of a large non-immune population which had no previous low-level disease exposure. The virus source was believed to be migratory wild birds. The 1989 cases were associated with the increased flooding of non-agricultural areas, primarily along drainage systems in Kern County. The implications are quite clear about more wetlands, which attract migratory birds and higher numbers of mosquitoes, causing increased risks of human disease.

The worst recorded epidemic of encephalitis in California was in 1952, where there were 420 human cases and 10 deaths recorded. Three hundred and seventy-five of these cases were WEE, and 104 of this number or 28% were infants under 1 year of age.

Mosquito control was recognized and supported as the only way these diseases could be controlled. Lots of money was made available for mosquito control, for a while, after this epidemic. Remember there is no cure, once the viral encephalitis starts, and there is no generally available human vaccination to prevent it.

Survivors of the 1952 epidemic showed that Western Encephalitis can cause extensive residual brain damage, as well as death, with the most severe brain damage cases occurring in the very young. About 40% of the 104 infants with WEE under 1 year of age had brain damage. Another observation from this epidemic was that the disease in a pregnant mother can be passed on to her unborn offspring, as shown in identical twins, both of which had severe motor function damage. Some of these cases are graphically recorded in a film made after this epidemic.

St. Louis encephalitis, which is caused by a different virus, is particularly severe on older people, with the death rate in the neighborhood of twice that of WEE. Eastern Encephalitis on the east coast and California Encephalitis in the Midwest are reported to have an even higher death rate in humans.

Organized mosquito control agencies now collect mosquitoes and bleed and test domestic and wild birds and other wildlife, to see when any of the viruses which cause encephalitis are active. Experts believe that encephalitis viruses may produce hundreds of low level undiagnosed flu-like illnesses for each diagnosed human case. Delayed neurological problems are suspected from encephalitis infections in young people, which were not diagnosed because the disease was too mild. These delayed problems are thought to occur as the brain is developing and growing, with the risk ending when the brain reaches its maturity.

History shows that early season encephalitis virus activity in California and Arizona is associated with drainage systems, such as the Colorado River and in the San Joaquin and Sacramento Valleys. In Northern California, the Sacramento River and nearby extensive wetlands and refuges are the places where we usually first find the virus. Infected mosquitoes are usually found in urban areas 2 to 4 weeks after virus activity is seen in the wetland habitat. Migratory birds are the most likely source of the virus.

Encephalitis in Other Areas

Other areas besides California and its neighboring States have experienced recent periodic epidemics of Western and St. Louis encephalitis, along with other mosquito vectored, viral diseases.

In 1975, for example, an epidemic which began in Mississippi spread north along the major river systems into the upper Mid-west. Before this epidemic was over there were over 4000 confirmed human cases, with 95 confirmed deaths. This was a combined epidemic, witn Western starting first, followed by St. Louis. Ohio experts alone reported 419 cases, and estimate another unreported 1100 human cases. In one Ohio City, one mosquito in 120, on average, was infected.

An SLE epidemic in Houston Texas in 1964 resulted in 34 deaths, and was the reason a control district was established there. In the same decade, Dallas was also sprayed by military aircraft, to stop an epidemic there.

In 1971, 10 1/2 million acres in Texas and the Gulf States were sprayed by air in just 35 days and over 3 million acres were sprayed by ground rigs to control mosquitoes and other biting flies during an epidemic of Venezuelan Equine Encephalitis (VEE). While the concern in the U.S. seemed focused more on horses than people, the record in Venezuela showed there were about 32,000 human cases and 190 fatalities between 1961 and 1964. In 1967 and 1968, the human cases were estimated at a quarter to a half million, and 50 to 100 thousand horses had died. VEE seemed to have some of the same endemic migratory bird host patterns as WEE and SLE.

This past year (1990) Eastern Equine Encephalitis was active in Massachusetts and New Jersey. A reported 700,000 acres in 4 Counties near Boston were sprayed by air for this outbreak. This problem was associated with tidal wetland mosquitoes and migratory birds which frequent these salt marshes.

Florida and the Gulf States including Houston, Texas also experienced many cases of human SLE this past year, and many sentinel chicken flocks in Florida showed that 100% of the birds had antibodies. While the numbers are not complete, there were 96 confirmed and 42 suspect human cases, with 5 deaths, as of November. Halloween trick or treat activities and evening athletic events were cancelled in many areas, because of the disease risk.

Encouraging Disease Risks

The anti-pesticide movement has caused disastrous consequences for the protection of humans from diseases. Public health pesticide uses cover small areas compared to agricultural uses and are usually applied at much smaller dosage rates. As a result, low volume uses for health protection have been the first uses dropped by the manufactures. This is simple economics. It has been our experience that the Federal EPA does not recognize the low volume, high benefit uses of pesticides for health protection as meriting special consideration.

In California, we have lost our best pasture mosquito control material because this chemical is only used for mosquitoes and household pests. The State allowed the use on pastures in the past for health protection, but new perceptions of risk and new rules on residue tolerances now even prevent this use. Ironically these pasture mosquitoes and Jack Rabbits are one important part of the endemic encephalitis virus cycle. A popular alternative pesticide for protection of people from this vicious mosquito is pyrethrin, which is a natural extract of a particular Chrysanthemum flower, and it is in very short supply. Besides costing about $300.00 per pound, we are on allocation and have no assurance we will even be able to buy or afford enough to kill these mosquitoes and the other vectors of encephalitis in dense urban areas, let alone the pasture environments outside of town. Other States are having similar problems with pesticide availability.

People want to have a decent place to live, and increased population pressures have caused people to invade mosquito areas and even to try to re-create natural wetlands. There are some in our society that have even used the wetlands issue as a way to discourage or stop urban growth. They have invoked the Federal Army Corps of Engineer's dredge and fill permits, and more recently the Endangered Species Act as ways to prevent land reclamation. The consequences of wetland and wildlife preservation workers fighting against the use of pesticides at the same time they advocate more wetlands could cast these people in the roll of promoters of human diseases, whether they realize it or not.

Liability of Creating or Maintaining Wetlands

By now, I hope you can appreciate some of the poorly comprehended social risks which go along with creating or maintaining wetlands.

In addition, I am really bothered to see conflicting data that suggests that the numbers given to support the argument about past wetland losses in the Central Valleys of California is not accurate, or even purposefully misleading. These differences may be due to different definitions of wetlands.

Numbers compiled by the USDA, Soil Conservation Service shows that in all of the Pacific States, between 1982 and 1987, the average loss of privately owned wetlands was about 8,000 acres a year. This does not square with the catastrophic loss numbers being used to achieve a political objective.

Control of the Problem

Continuing on the theme of risks associated with wetlands, let me point out some options open to public health workers, to protect people from unreasonable adverse effects on their lives and their living place (= their environment). First, reasonable people should want to have progress, as well as what one might think of as amenities, such as wetlands. The key to having a reasonable mix of both wetlands and health protection lies in a committment to wetland management. This is not the usual flood and hunt idea, or just keeping an area wet, which many people think of as wetland management. True management requires being responsible for a reasonable balance of benefits, with minimum risks. Wildlifers are going to have to get real, and recognize that pesticides and physical control are necessary parts of their control options. Said another way, pesticides have benefits and their use may be the only means for having socially acceptable wetlands.

Keeping useful pesticides available is in the best interest of true conversationists.

Whose Risk and Whose Benefit?

I have tried to understand the reasons why society is so set on increasing wetlands, at all costs. Let me list some reasons which I have heard.

1. To replace losses due to civilization - this spiritual kind of idea involves a return to primeval times, for reasons that are not clear.
2. To solve a social guilt complex such as "replacing the plunder".
3. To make a place for "sportsmen" to play.
4. Some vague sense that wetlands are the primordial birth place of land animals, and therefore worthy of preservation.

Using these possibilities or others you may want to consider as benefits, ask yourself what are the offsetting factors or problems in increasing wetlands. Obviously, I hope you now see health risks as a vital consideration.

Another question is where do people fit in this "creating wetland" equation, and who pays the hidden costs for wetlands? Under most modern thinking, the direct beneficiary should pay the cost, if that beneficiary can be identified.

Ask yourself, how many human disease cases are an acceptable amount, in order to have an incremental increase in wetlands? Realize also that statistics are fine before an incident occurs, but not when someone in your own family is that one case in ten thousand.

With this social preamble about the beneficiary paying the costs, I would like to tell you some of the alternative strategies I consider to be viable ways to protect the public from the unreasonable health risks such as mosquitoes and diseases, associated with wetlands.

1. Convince landowners to manage their land so it does not become a public nuisance. Under California law, a breeding place for mosquitoes is a public nuisance. Other States have general nuisance laws, and many have specific mosquito control laws. If wetland banking is required, it must be adequately managed and appropriately located.

2. If land is in a vector control district or the County uses the California vector control laws, the nuisance can possibly be treated with pesticides and biological control agents paid for with tax dollars, or the landowner, which may be a Local or State Agency, can be ordered to abate the nuisance and pay the costs. They can even be charged civil penalties. Federal Agency have immunity from local laws.

3. If a landowner in California buys a property with an easement, or sells or gives an easement which concerns wetland preservation on land he continues to own, the new or continuing landowner can be made to abate the nuisance, or pay the costs. In this case, civil penalties on the landowner may be more appropriate for use to fight the mosquitoes when they fly from his property.

Conservation easements can have costs which may not be recognized. Again, the Federal land immunity is an exception, but a private landowner is really setting himself up for continual grief when he sells or gives a conservation easement. Under the Federal easement program, the Federal Government can flood such land, and the private landowner can be held liable for the nuisance which the Feds. have created.

4. We may be able to require a statement in the public report to any buyer of a property with a wetland easement, telling him of the liability he is accepting when he buys such land. We are also trying to get the Soil Conservation Service or other Federal Agencies such as the U.S. Fish and Wildlife Service to disclose the consequences and liability which will be incurred, in the language of their contracts with landowners which cover easements that require wetland preservation. Full disclosure of the consequences of an easement should be a requirement.

5. Any State or Local Agency in California which provides or controls the delivery of water that results in a mosquito breeding public nuisance can be cited, charged costs to abate the nuisance that water creates, and assessed civil penalties. Under this theory, even the owner of a water right could be issued an abatement order for a nuisance created with water appropriated under that right.

Federal immunities are not absolute in this case. If Federal wetlands get water from State or Local Agencies, or through their delivery facilities, or are subject to State water rights laws, this is a potential way to get compliance from Federal Agencies for wetland management. We could put pressure on the supplier or transporter of the water, and provide a disincentive to supply water to Federal landowners who allow that delivered water to become a public nuisance.

6. Finally, we can get more active with the media, where stories trickle down or up to the legislative decision makers. Consider the reaction to a press release concerning potential encephalitis from a proposed wetland, with T.V. graphics showing

brain damaged infants. With work, I believe we can achieve public awareness of the risks of improperly managed wetlands.

People have a right to good health, which public health people should support with as much vigor as the wildlife people use to support their wildlife constituency.

Nostalgia

Those "good old days" which are shown on late night T.V. tend to overlook the hardships. Early settlers and miners had hardships I do not envy. Glorifying wetlands for purposes of political perceptions without equal time to explain the risks, is not ethically acceptable. I consider it to be socially dishonest. If the wetlands issue was a scientific debate, such one-sidedness (or adversary science) would be grounds for censure. Perhaps this is why the wetlands issue has been taken out of the realm of science, so the accountability will not diminish the success.

Sol Alinsky, the radical organizer has written: "If the ends don't justify the means, what the hell does?" Said another way, "don't let conflicting facts interfere with winning the game."

I frankly enjoy our present standard of living.

I can assure you that the health issues will not let me sit by and watch society taken back to those "good old days" where food was scarce, disease was prevalent, and an early grave was the expected.

Note: I hope you will appreciate that I have tried to give and discuss factual data, and at times have listed some of the less than obvious consequences. In any controversial discussion of this sort, the first decision is whether to deal with pure science, under the rules of science, or to deal in the would of "Bio-politics", which only uses whatever science happens to fit the desired result.

My presentation is an attempt to provide what seems balanced, from my perspective. I enjoy nature, I like to hunt and fish, and I also recognize that people are important. Human health needs must be recognized, accurately evaluated and made part of any environmental consideration.

Ranches Farms Acreage . . . . Sold Bought Exchanged

(916) 682-5555
FAX 688-3660

Bob
WESTERN RANCHES
P.O. Box 1865
Elk Grove, CA 95759

February 11, 1991

Honorable John J. LaFalce, Chairman
House Small Business Committee
U.S. Congress
515 House Annex 2
Washington, D.C. 20515

Dear Mr. LaFalce,

I am MOST encouraged to read (belatedly) of your committee's three January/February meetings regarding "Are Wetlands Regulations A Burden On Business?" --- and I truly hope that something effective and realistic comes of your collective efforts.

I could "speak" for an hour about the imbalance of the over-kill preservations of this whole wetlands subject --- but here I'd just like to confine my input to the "Vernal Pools" segment of the general subject.

If you would be so kind as to consider reading (in the interest of overall brevity and eliminate repetition herein) the enclosed copy of a letter I wrote to James R. Mosely, Assistant Secretary, Natural Resources and Environment, U.S. Department of Agriculture; this and those enclosures will hopefully combine to cover our specific "vernal pool" details, as well as give a bit of our own credibility.

My thanks to you and all for your respective considerations.

Best Regards, and Good Luck,
WESTERN RANCHES

Robert A. Koetitz
Robert A. Koetitz

RAK:ms
encls.

Robert A. Koetitz, Broker. (Pronounced "Kay'titz")

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(916) 682-5555
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Bob

WESTERN RANCHES
P.O. Box 1865
Elk Grove, CA 95759

February 2, 1991

James R. Moseley
Assistant Secretary
Natural Resources and Environment
Department of Agriculture
Washington, D.C. 20250

Dear Mr. Moseley:

Thank you VERY much for your most-welcome 1/25/91 response to my 11/19/90 "Bower Cave" letter written to Deputy Secretary of the U.S. Department of Agriculture, Jack Parnell --- I would have "bet the farm" that my letter would have "fallen through the cracks in the floor". I will follow up on your letter appropriately with the Forest Service office in Sonora.

Seeing the word "Environment" below your signature on the letter prompts this "instant" follow-up on a vital (to me, and many) segment of the Environment --- "Vernal Pools". AT least here in central California, the protection, preservation, and mitigation of Vernal Pools seems to be accelerating at an almost scarey pace, to the point that the citizenry is rather bombarded from all segments of the media, including/plus many protesters, and quite a few of these people, I truly believe, are substantially mis-guided.

In all of the aforementioned publicity and activity, "almost" without exception, it seems to be very much one-sided, in favor of protection/preservation.

Therefore, would you be so kind as to consider, in the enclosures herewith, some input relative to the "other side(s) of the coin" --- and to hopefully also cause the enclosure to be passed on to appropriate effective hands in the name of equality of consideration? I have seen or heard relatively too-little against unrealistic preservation of questionable "vernal pools", and what relates to them.

Thank you very much for your, and others', consideration.

Best regards,

WESTERN RANCHES

Bob

Robert A. Koetitz

RAK:kw

P.S. In the hope of possibly achieving a bit of credibility as to my personal and professional involvement relative to this subject, enclosed herein are copies of three valued letters of recommendation.

B

Ranches Farms Acreage . . . . Sold Bought Exchanged

(916) 682-5555
FAX 688-3660

Bob

WESTERN RANCHES
P.O. Box 1865
Elk Grove, CA 95759

Good Morning,

If you do not have first-hand knowledge of what the throngs of people are calling "vernal pools", these by definition,are generally considered as a depression in the ground that will hold "natural" water for seven consecutive days --- during the year. Now, by legal edict these must be preserved (if not "properly" mitigated somewhere else) --- because these mud holes reportedly contain some kind(s) of mostly microscopic larvae, other biological or botanical life or organisms, tiny aquatic life, etc.

A "few minutes" ago I became 70 years old, nearly all of which have been spent living on ranches or smaller country parcels, directly involved in agriculture and very closely related activity/work, and what I understand is now being considered a "vernal pool", reportedly with a redeemable value of some kind, are what have generally been considered since "the year one" as a bogg hole or a "hog wallow" (meaning no disrespect to hogs) --- but these mud holes have been considered a distinct detriment by the owners/operators of the land, for a great number of reasons:

1.) First, let me defend hogs. Given the opportunity and proper facilities by their owners, these are probably the cleanest-living of all ranch and most other animals; so please don't anyone preserve bogg/mud holes for hogs.

2.) Whether it's in a 1-acre parcel, or 100-acre field, a "vernal pool" with water in it, a cow that's about to deliver a calf, will all too often have the calf right at/in the mud hole, sometimes maybe because of the conveniently sloping side of the hole/wallow --- and the calf will be delivered or dropped into the mud or water and die for one of too-many related reasons to go into here.

3.) If there's any size to the "vernal pool", and it has water in it, again all too often, the baby wobbley calf will be on one side, its mother on the other, and when it gets hungry, or mama calls, the calf will probably try to take a short-cut through the water/mud, and some of them drown or get pneumonia and subsequently die.

4.) Cattle/livestock, either because many are lazy, don't know any better, or don't care, but even if the owner provides fresh clear drinking water in metal or other clean trough --- too many animals will instead drink from an available "vernal pool" which contains dirty stagnant water which is currently being further defiled by their own urine and manure while they are standing in it and drinking from it --- and I kid you not.

5.) The contaminated sources of drinking water noted in (4) above also results in internal disease, such as liver flukes, etc., which is too-often fatal to cattle, and perhaps other animals.

6.) Stagnant water, from whatever source, also causes another very serious problem to livestock, such as Foot Rot in cattle and sheep.

7.) "Vernal pools"/hog wallows/boggs are a distinct drawback to a property having them, "most" people don't want such blighted property, and I've seen many many fields with so many "pools" that it is dangerous to run a horse across it --- so "about" the first thing a conscientious livestock person will do, when the budget can absorb it, is to fill these pools/boggs (with adjacent dirt) and substantially smooth the area at the same time. Many will smooth/grade the fields (large and small) even more so and put in an irrigation system.

8.) Further, when these areas dry up, the deep hoof marks form a hard, very-uneven ground surface --- looking much like a waffle iron --- which is very difficult for animals or people to traverse.

9.) If a property owner subsequently irrigates a field/pasture, the preserved vernal pools will then create further problems, such as longer life for the mosquito activity, also breeding other really-nuisance growths such as Nut Grass, Sour Dock, etc., etc.

10.) "Vernal pools", in our extensive ranching and country-property experience, are a boon to the very bothersome mosquito reproduction; and the plague of livestock, people, and the Mosquito Abatement Districts. A major activity of Mosquito Abatement District personell is to routinely criss-cross the country-side on schedule, looking for and testing mosquito-breeding pools or stagnant water --- AND admonishing the related property owner to correct (drain?) these situations (violations?) !

11.) Many of these pools give life (a darn short life) to very tiny fish, pollywogs, frogs, etc. --- all of which soon die when the water dries up, or animals have tromped the water/slurrey into mud.

12.) Preserving such detrimental pools seems all too close to also preserving other, very negative "things" that have life of some kind, such as a patch of Russian, or Yellow-Star Thistles, Tar Weed, Puncture Vine, Sand Burrs, etc., to name just a few; maybe some day even rattlesnake abodes.

13.) One "brilliant" example of vernal pool "mitigation"as we understand it, allows eleminating some "vernal mudholes" on a development project on non-productive virtually worthless (agriculturally) Class V or VI soils, by the developer buying a certain amount of Class I or II(?) soils that have been previously levelled to grade, irrigated, and historically producing good farm crops --- then abandoning such productive ranches (of better soil?) to become worthless mosquito-breeding etc. swamps.

In all of my years trudging over and riding through countless ranches and fields, many many of which contained pools/boggs, I do not recall ever seeing any of the botanical, biological, larvae, plant, and/or "whatever" other life that is now intended to be preserved (and preserved for how long, and from a practical standpoint?) by this"action"such as is being decided by "whomever". If this life intended to be thus preserved, is not preserved --- how many people will have seen it earlier, how often, or even know what has been lost, and so who will miss it? I'd "bet the farm" that a subsequent property owner won't want to preserve such pools. For that matter who could see these boggs on private property, without trespassing?

I might be ill-advised on this point, but I've heard on pretty good authority that a residential building permit will not be issued on the site of a vernal pool --- but a barn or other improvement could be built there.

Attempting to preserve the often virtually invisible (and some microscopic?) "whatever", at the expense/loss of many realistic and humane benefits for animals, as well as people, and other life --- seems to create real problems, as well as be 180° off course. To compound this "vernal pool" preservation (and for who?), is that the cost of this sizable program, in both time and money, is yet another example of very substantial lot-and-home costs --- that inevitably find its way to the consumer.

Conversely, relative to all of the expense and effort spent to preserve "whatever" might live for awhile in "vernal pools", who is equitably speaking out "on the other side", in favor of points such as I have mentioned hereinabove? And I doubt that I have done more than "scratch the surface" for valid reasons for not preserving pools/boggs; and I am confident that there are "many" qualified people and agencies/firms who could pursue all of this quite effectively.

Please excuse the length of this "book", but I do have a hard time being brief. Incidentally, you have my permission to use any of this letter, just as long as I risk no related liability. Thanks for "listening".

Best regards,

WESTERN RANCHES

Robert A. Koetitz

RAK:ms

THE
TRUST
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LAND

November 16, 1990

Robert A. Koetitz
Western Ranches
8650 Waterman Rd.
P.O. Box 1865
Elk Grove, CA 95624

Re: Bower Cave Property, Mariposa County, California

Dear Bob:

Congratulations and thank you for a super job. In my experience, it's not often that the buyer has special reason to be grateful to the seller's broker. This case is unusual, however, because time and again you've gone above and beyond the "call of duty." I'm referring not only to specific things such as your supervision of the "dump" clean-up, but also to your pragmatism, attentiveness, spirit of cooperation, and just plain willingness to take charge and get done what needs to be done. And in case I haven't said so before, your genuine friendliness has made this one of the most pleasant working relationships I've had with someone outside The Trust for Public Land in a long, long time. Part of what you've brought to this deal can be chalked up to a wealth of experience, I suppose, but character should no doubt be credited too.

Bob, you might want to mark your calendar for Sunday, December 2nd, as that date has been chosen for festivities at the Jeffrey Hotel in Coulterville to celebrate the conveyance of the ranch to the Forest Service (God willing, we'll have managed to get that accomplished by then). More formal invitations are being sent out, but I wanted you to know about it as far ahead of time as possible.

Again, thank you for your terrific work. I'm sure we'll be talking soon.

Sincerely yours,

Robert A. Flewelling
Assistant General Counsel

RAF/ra
cc: Bennett Johnston
Jack Linkletter

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California Livestock Production Credit Association

Administrative Office
8788 Elk Grove Blvd., Suite J
Elk Grove, California 95624
916/685-6546

October 22, 1987

Re: Bob Koetitz of Western Ranches
P.O. Box 1865
Elk Grove, CA 95624

To Whom it may concern:

I have known Bob for the past five years. Bob has been involved in marketing several pieces of Association real estate. Bob's attention to detail, follow-through, and plain hard work has been the key to a good working relationship. Bob is extremely cooperative, has the ability to read a potential buyer and is knowledgeable in agriculture.

To work well with Bob, one must be open, straightforward, and honest, whether Bob agrees with you or not, and I know he will reciprocate.

If you desire a hard working, dedicated broker, I do not hesitate to recommend Bob as a broker for ranch properties.

Sincerely,

Gary Wright
President

Part of the Farm Credit System

August 1, 1990

To Whom It May Concern:

Ranch real estate broker Bob Koetitz, the owner of Western Ranches, represented us, the owners of the approximate 8,750-acre Borden Ranch located southeast of Sacramento, in this sale that recorded earlier this year. Prior to giving an agent an Exclusive Sales Authorization, we seriously considered several and believe we selected the right broker.

Bob quite thoroughly understands ranches and ranching, he never slacked off in his interest or sales activity in our behalf, he made extensive efforts to invite the cooperation and help of other agents, effectively exposed our property to all segments of prospective users of it, helped us to solve some title "clouds", faithfully kept us up to date of his activity (in writing), and he is pleasant to work with.

This was not an easy transaction, for any of us, particularly in that it is a rather large diversified ranch, ranching here is not known for being profitable, and our ownership consisted of thirteen partners.

We believe that Bob is exceptionally capable and we are happy to hereby give him a strong recommendation to anyone who might want to benefit from similar real estate representation.

Sincerely,

The Borden Ranch, by,

Robert D Rodden
Robert D. Rodden, Managing Partner.

William E. Rodden
William E. Rodden, Consulting Partner

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MARYLAND AGGREGATES ASSOCIATION, INC.
48 Maryland Avenue, Annapolis, Maryland 21401

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February 20, 1991

The Honorable John J. LaFalce
Chairman
House Small Business Committee
2367 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman LaFalce:

The purpose of this letter is to put our Association on record with regard to the series of hearings your committee held on the subject of the effect of the nontidal wetlands law on small business.

Before we state our position, please be aware the the Maryland Aggregates Association, Inc. is a trade association consisting of 35 companies involved in the stone, sand and gravel quarrying business. Obviously we are very interested in the wetlands law and regulations.

We applaud your Committee's efforts to shed light on the impact of the current law and generally agree with testimony supporting the notion that the current law and regulations are overly broad and burdensome on our industry. To the extent that these provisions "trickle down" to the State level in a more stringent form they become even more onerous at that level.

We support the continued study of this law with an eye toward a rewrite that will make it more reasonable for our industry to comply with its provisions. We have been advised that legislation aimed at that goal will be introduced during the 102nd Congress. When it is introduced, we will analyze it and forward our comments to the appropriate members.

Sincerely,

Paul C Mellott, Jr.

Paul C. Mellott, Jr.

2616 Mtn. Brook Pkwy.
Birmingham, Alabama 35223
March 29, 1991

Hon. John J. LaFalce, Chairman
House Small Business Committee
House Office Building
Washington, D. C. 20515

Dear Mr. LaFalce:

We have recently learned that your Small Business Committee is investigating the impact of wetlands protection on small businesses. Since we have reviewed wetlands regulations in national hearings conducted under the Executive Office of the President, we wish also to submit some comments to your committee and have been advised they would still be timely if received just after the Easter recess. Therefore, we are enclosing the same and request that your committee implement them in connection with your hearings.

(1) Need to Implement National "No Net Loss" Policy and Benefits to Business -- We believe the President's "no net loss" policy for the preservation of our remaining wetlands resources is decidedly in the best interests of the Nation and that the great majority of our citizens agree with the soundness of that policy. Wetlands constitute one of the most important habitats on the continent (only being exceeded by bottomland hardwoods); but we have lost almost 60% of the original acreage, and somewhere between 300,000 and 400,000 acres are being destroyed each year. Wetlands aid water quality by filtering or removing pollutants and, by slowing down water flow, reduce the many adverse effects of downstream flooding and contribute significantly to recharge of groundwater. They also provide greenbelt sites for otherwise totally developed lands and, of course, provide opportunities for a variety of recreational pursuits.

It can easily be seen that each of the above are cost-effective benefits to small businesses in that they provide desirable benefits through natural processes without the need to have the businesses expend large amounts on them. This is particularly true as to the matter of water quality in reducing the effect of downstream flooding and siltation that can be disastrous to a small business that is located near a watercourse but not entirely out of the flood plain. The other factors mentioned are also benefits needed by small businesses and the employees they wish to attract.

Even more importantly, wetlands provide breeding and nursery grounds that support our commercial and tourist fish industries. Most of these businesses are small businesses and, without the natural supply of fish and shellfish (around 90% of which use coastal wetlands for part or all of their life), these industries, which have seen those resources already depleted in recent years, would have further adverse impacts from which they might not be able to recover. In this connection, intensive studies have shown that, acre for acre, wetlands -- in particular coastal wetlands -- are the most productive acreage on earth.

(2) Need for Protective Regulations -- Without some effective regulations, one business might be depending on some of the benefits given by wetland resources in its area, but another might be destroying them. Thus, there is need for effective regulations coordinated at the national level. Administration of the national policy is through Section 404 of the Clean Water Act and, consequently, should be retained and its administration strengthened in order to protect all concerned. Several federal agencies involved in such administration have recently prepared a jurisdictional manual for identifying and delineating wetlands. Identifying them and having a standardized determination is obviously cost-effective and promotes equitable treatment. The

manual has been criticized by some, but we believe that it has been supported by the great majority of interests in the country that are concerned about wetlands determinations. While some have claimed that the manual expanded federal jurisdiction, it actually incorporated a standardized definitional treatment that had been sustained in court decisions across the country. It provides for consistency in policy among the administering agencies, which is a definite advantage to business, and is based on accepted scientific facts developed over years of agency biological experience. Thus, we would strongly urge that the manual be supported and that, if an area meets the three-factor test of wetland vegetation, soil and hydrology, then it should be classified as a wetland because it will give to the area the benefits previously referred to.

(3) Importance of Identification -- Small businesses do not have the resources to conduct extensive investigations -- or maybe even in any investigations at all -- of the locations and benefits of wetlands. Thus, they are more dependent than others on the work of the administering governmental agencies. It is, consequently, very important to them that there be standardized and established identification of the wetlands in their area. In its simplest form, that would permit a business, upon inquiry, to plan its activities so as to avoid adverse impacts on wetlands -- many businesses could so plan their activities, if they only knew in advance where the wetlands were. On the other hand, other businesses may wish to rely on the presence of wetlands to control factors such as downstream flooding and, thus, would want to depend on the continued existence of those wetlands. They, consequently, need to be able to rely on the continued viability of the natural assets of the area where they wish to locate so that they would not expend needed funds and then find those resources missing or destroyed. Both of these aspects are very important, particularly to small businesses that cannot afford extensive research departments, thus emphasizing the advantages of the manual and its standardized enforcement throughout the country.

(4) Non-Water-Dependent Uses -- In processing applications for impacts on the existing wetlands that remain, it would appear in our national interest that destruction of wetlands be avoided -- or, at least, substantially minimized -- in all cases of uses that are not water-dependent. Such uses can be located elsewhere, whereas an essential water-dependent use may have to impact our remaining wetland resources. Consequently, in order to avoid impacting that productive resource any more than necessary, the regulations should require that uses that are not water-dependent be located outside the wetland resource.

(5) Avoidance and Mitigation -- Current policies strive to achieve a goal of, first, avoiding destruction of wetlands, then minimization, and lastly mitigation by creating compensatory wetlands acreage. While avoidance is the most cost-effective alternative, the technology of mitigation is being developed; but to assure greater chances of its success, it should be done on-site or at least in the same watershed and should be at least at a 2:1 ratio. These, however, provide good business opportunities for small businesses in the expanding environmental field.

(6) Coordination with Other Programs -- Because of the large benefits from wetlands preservation, the destruction of wetlands should cause the entity producing the adverse impacts to be ineligible for governmental assistance programs. Thus, the "Swampbuster" provisions of the Farm Acts should be preserved. It is only realistic and fair that government should not contribute to support programs where the recipient of those benefits would be contributing to loss of a national resource. This is also only a cost-effective measure for the Federal Treasury.

Coordination has also its positive economic effects. In implementing waste disposal regulations, many small businesses -- and even homes with septic tanks -- are finding it economical and desirable to create wetlands for the biologic treatment of wastes. The bacteria on the roots of such aquatic plants as cattails and bulrushes react to degrade effluents biologically so that they will, in effect, work as small waste treatment plants. In Alabama, just that approach -- i.e. creation of small wetlands -- has been used in one of our poorer counties to treat the waste from one of the county's high schools. A small town south of Montgomery found it too expensive to upgrade its sewage treatment facility, so it established a wetland instead that treats the wastes and meets EPA regulations. As a further example, one of our biggest chemical industries (which of course is not a small business) treats its toxic wastes by processing them through some standardized treatment and then into a wetland before discharging the waste water, which is said to be pure as drinking water, into Mobile Bay. This is a new and expanding method of waste treatment that offers all kinds of opportunities and can certainly be of use to small businesses if it can be used by small a village or a high school. Similar opportunities are also obviously available for commercial and residential complexes.

(7) Incentives for Protection of Wetlands -- Because of their broad benefits, the national policy should naturally promote their preservation and contain disincentives for draining wetlands. As another approach, it would appear that the government should take action to encourage their retention. A reasonable incentive would appear to be through tax deductions for retaining wetlands (not necessarily their new creation but retention of the existing resource). This could be administered in the same form as tax deductions for setting aside conservation easements, i.e. the wetlands would be appraised at an appropriate value and the owner be allowed a deduction (or maybe a double deduction) for setting them aside under a long-term easement or other agreement that would prohibit its draining or other destruction. Another alternative -- which would require some local cooperation, which should, however, be given -- would be exemption from property taxes. This latter approach would be especially valuable to small farmers since it would give them an incentive and some compensation for preserving and protecting this national resource.

(8) Opportunities for Small Business -- The many advantages that are provided without expense by natural processes, through the assimilation of wastes and other benefits of wetlands, are referred to above. However, we know that small businesses are getting into the business of creating wetlands. These provide opportunities, especially for those in the waste treatment industry, those allied to seafood industries and those dealing with mitigation or the creation of wetlands. They are expanding business horizons and show positive opportunities for small businesses in fields such as these to protect this national resource and to assist other small businesses in taking advantage of that resource.

For the above reasons, we strongly urge retention of the national "no net loss" policy and its implementation through the Section 404 permit program and the jurisdictional manual and also urge that your committee consider the benefits from retention of what wetlands resources we have remaining and the opportunities related to creation of new ones as referred to above. Your consideration and that of the other members of your committee will be greatly appreciated and, we believe, will be of great benefit to the national interest and the general taxpayers.

Sincerely yours,

Robert R. Reid, Jr.

Robert R. Reid, Jr.

RRR/rw

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February 4, 1991

FEB 14 1991

Committee on [illegible]

The Honorable John La Falce
Rayburn House Office Building
Washington, D.C. 20501

Dear Congressman,

In a recent article written by Mark Wigfield of the Ottaway News Service (a copy of that article is attached) you were quoted as saying,

> "Small businesses are being overburdened and development hampered as a results of costs and delays associated with the wetlands regulatory process."

We couldn't agree with you more. The Department of Environmental Resources in Pennsylvania has been given the power to make the regulations governing our wetlands, as well as the authority to enforce and levy fines. There is something very wrong with that operation if you consider the basic premise on which this country was founded. It seems to me that DER operates without regard for the checks and balances outlined in our Constitution.

We are conservationists. We believe in preserving our resources. We helped our mother recycle glass and aluminum and newspaper 20 years ago and continue recycling in our own homes today. We support the mandatory recycling program here in Grove City. It is sickening to see the burning of the rain forests in Brazil. The oil that now floats in the Persian Gulf is sinful. Waste that is dumped into our streams and waterways is wrong. We need to work diligently to bring these things under control. There are many acres in this state and the country that should be protected "wetland" areas. There is no doubt that "wetlands" are important and valuable natural resources. The confusion we face is the definition of a "WETLAND". We need a unified definition of a wetland, and we need it now. We need to stream line the permitting process so that it is realistic with the needs of those who have to deal with the bureaucracy on a daily basis.

In an effort to learn more about this issue we would appreciate a copy of any current legislation as well as any proposed amendments. We would be happy to discuss this matter further with you or any of your colleagues at your convenience. Gaining a better understanding of the regulations is our number one goal for 1991.

Thanks for your time. We're looking forward to your response.

Sincerely,

Douglas E. Thomas   Eric Kent Thomas

AROUND THE COUNTY

The Herald
Sharon, Pa., Thursday, January 31, 1991 Page 8

Business interests bogged down in wetlands laws, panel says

By MARK WIGFIELD
Ottaway News Service

WASHINGTON – Federal wetlands regulations are sinking the hopes of small businesses and farmers nationwide, according to the chairman of the House Small Business Committee

"Small businesses are being overburdened and development hampered as a result of costs and delays associated with the wetlands regulatory process," said Rep John LaFalce The New York Democrat said wetlands deserve protection — but so do property owners

The Poconos contain nearly a quarter of Pennsylvania's 500,000 acres of wetlands The clash between development and the need to protect wetlands has been a running story in the region

Northwestern Pennsylvania also contains substantial wetlands The congressman from that area, Rep Tom Ridge, told the panel that his constituents have found there is "no predictability of any kind" in the way the federal government regulates wetlands use

The Erie Republican testified Wednesday at the first of several hearings scheduled by LaFalce on federal wetlands regulation

"This is the number one environmental hot-button for the 102nd Congress Our system now probably encourages as much evasion as compliance"

Ridge and the seven other congressmen testifying complained that federal restrictions have made it impossible for businesses located in even marginal wetlands to expand, for property owners to sell once valuable land, and have taken farm land out of production Obtaining a permit to develop wetlands is costly and time-consuming

The members were careful to note the need to protect wetlands which provide habitat for wildlife, help recharge aquifers and reduce flooding But they said the system of federal controls needs to be revamped to differentiate between valuable wetlands and those of marginal utility

Ironically, an attempt by the four agencies that oversee wetlands to simplify regulations apparently has caused more headaches Recognizing that they all defined wetlands differently, the agencies in 1989 drafted a manual merging their methods

The manual "represents a good-faith effort," said G Edward Dickey, acting assistant secretary of the Army Corps of Engineers But he added "we recognize it is not a perfect document"

LaFalce asked Dickey and other agency officials at the hearing to suspend use of the manual until problems and inconsistencies can be corrected

"It's out of balance, it's out of whack, you better get it right You're creating chaos"

The officials didn't respond to the request

Ridge and three other lawmakers are preparing to reintroduce a bill that would rewrite federal wetlands law But LaJuana Wilcher of the Environmental Protection Agency said a new law may not be the answer

"I'm not so sure we're going to be able to develop something from scratch that is that much better," she said Current law "has had a tremendous amount of success in slowing destruction of wetlands across the country I'm not so sure I'd be ready to pitch it all away"

Environmentalists have agreed that there are major problems with current wetlands law But an earlier version of Ridge's bill could weaken existing law, they say

The Small Business Committee has no direct jurisdiction over wetlands regulations But LaFalce said his panel will try to get the appropriate committees to act on the problem